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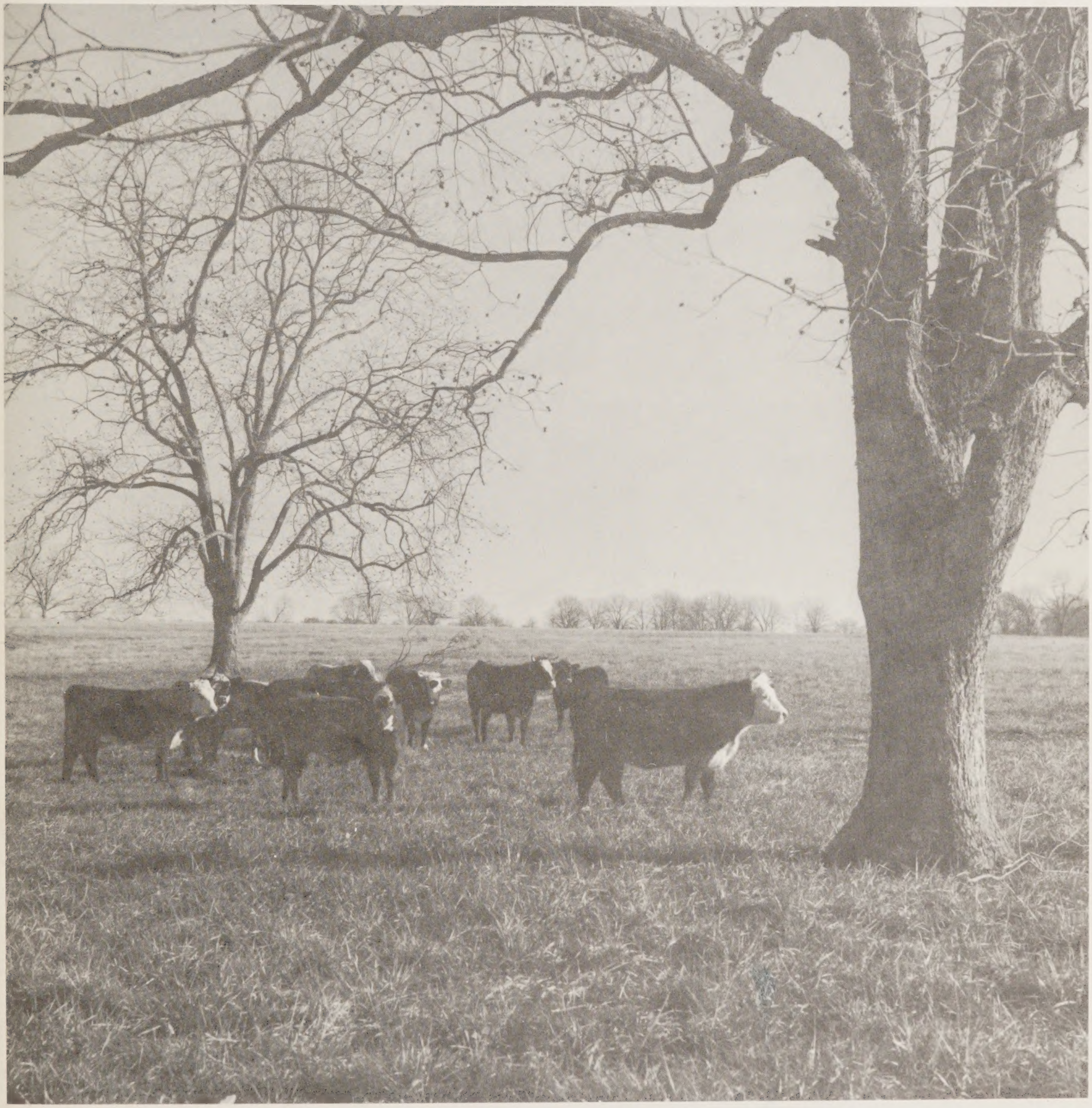
In cooperation with
Mississippi Agricultural
and Forestry Experiment
Station

Soil Survey of Noxubee County, Mississippi



HOW TO USE

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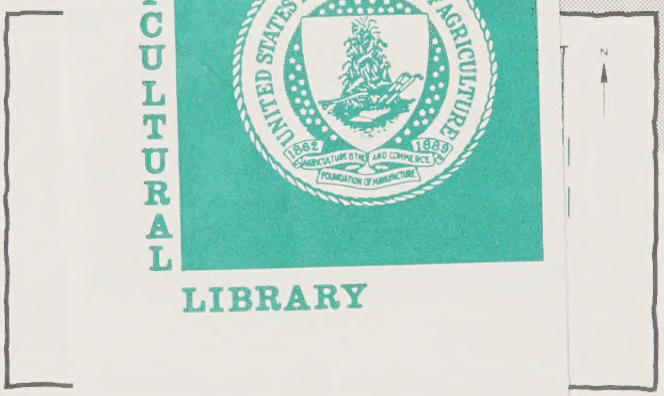
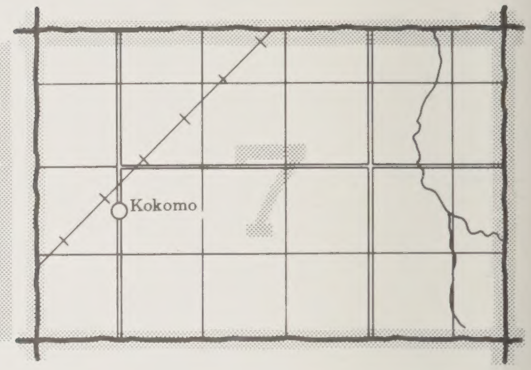
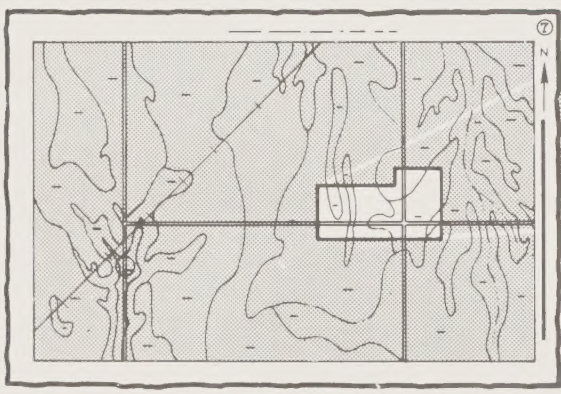
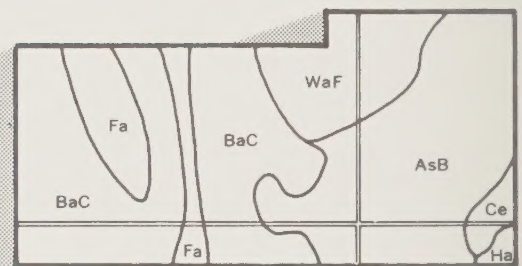




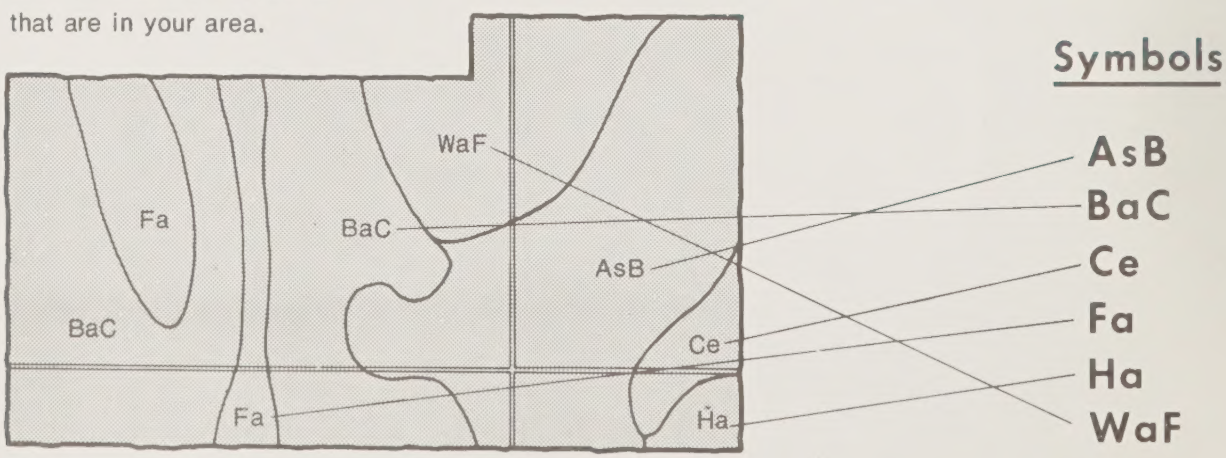
2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.



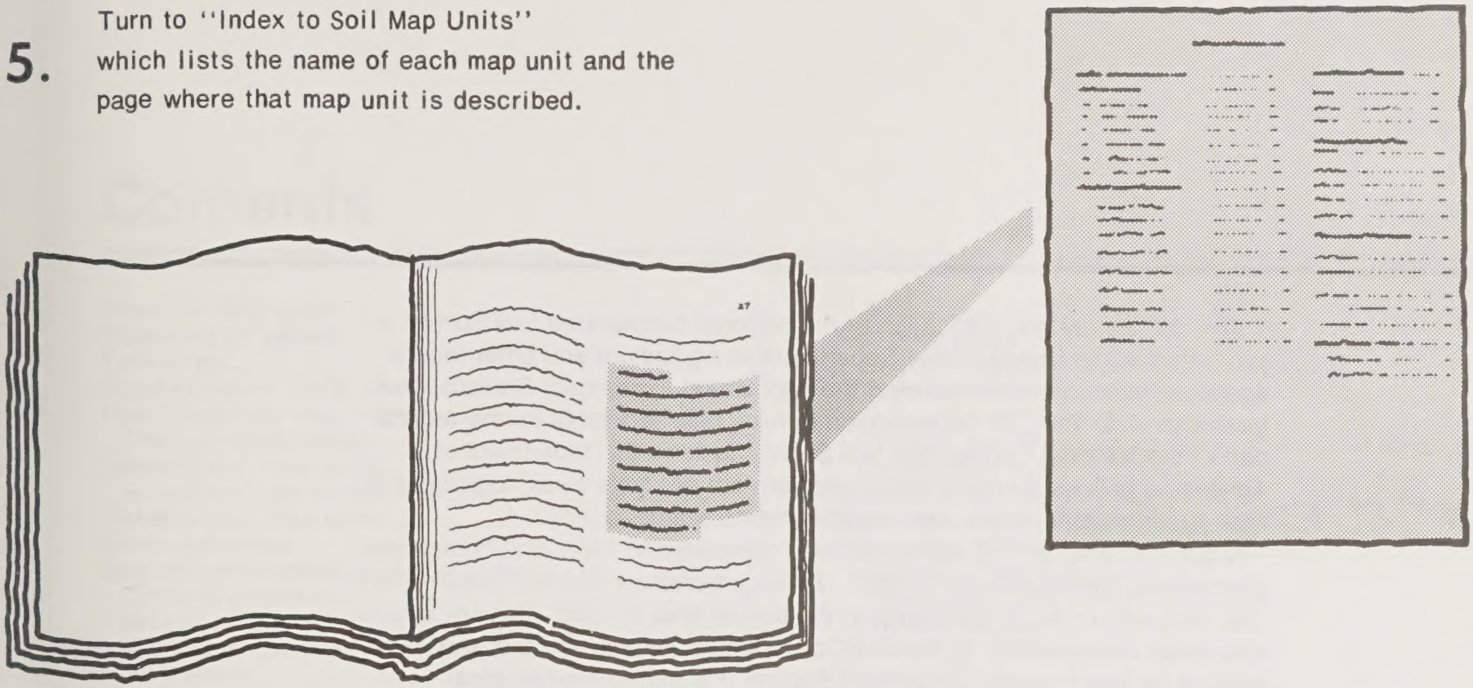


4. List the map unit symbols that are in your area.

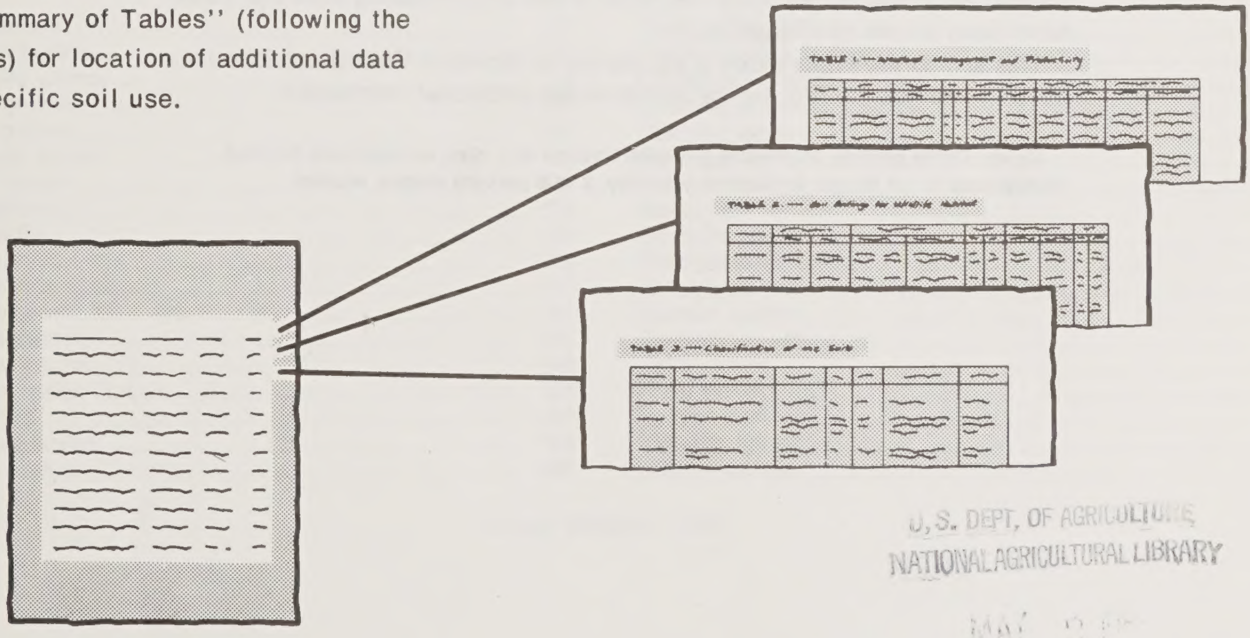


THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.



6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; to specialists in wildlife management, waste disposal, or pollution control.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was completed in 1982. Soil names and descriptions were approved in 1983. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1982. This soil survey was made cooperatively by the Soil Conservation Service and the Mississippi Agricultural and Forestry Experiment Station. It is part of the technical assistance furnished by the Noxubee County Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

This soil survey supersedes a soil survey of Noxubee County published in 1910. It updates the first survey and provides additional information.

Cover: Cattle grazing tall fescue grass on Catalpa silty clay, occasionally flooded. Background is tall fescue on Sumter silty clay, 2 to 5 percent slopes, eroded.

Contents

Soil Series

Issued October 1986

Index to Map Units

Summary of Tables

Foreword

This soil survey contains information that can be used in land-planning programs in Noxubee County. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.

Albert E. (Gene) Sullivan
State Conservationist
Soil Conservation Service

Location of Noxubee County in Mississippi.

Soil Survey of
Noxubee County, Mississippi

By Floyd V. Brent, Jr., Soil Conservation Service

Fieldwork by Floyd V. Brent, Jr., Herbert L. Ross, and Ralph M. Thornton,
Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service
In cooperation with the Mississippi Agricultural and Forestry Experiment Station

Noxubee County is in the east-central part of Mississippi. The total area of Noxubee County is about 444,800 acres or 695 square miles. The population of the county was 13,212 in 1980. Macon, the county seat, had a population of 2,396.

Noxubee County is bordered on the north by Lowndes and Oktibbeha Counties, on the west by Winston County, and on the south by Kemper County, and it is bordered on the east by Pickens and Sumter Counties, Alabama. The county is about 29 miles wide and 24 miles long.

General Nature of the County

This section provides information about the climate, farming, and settlement of Noxubee County.

Climate

Prepared by the National Climatic Center, Asheville, North Carolina.

Noxubee County, Mississippi, has long, hot summers because moist tropical air from the Gulf of Mexico persistently covers the area. Winters are cool and fairly short with only a rare cold wave that moderates in 1 or 2 days. Precipitation is fairly heavy throughout the year, and prolonged droughts are rare. Summer precipitation, mainly afternoon thunderstorms, is adequate for all crops.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Macon, Mississippi, in the period 1951 to 1980. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 45 degrees F, and the average daily minimum temperature is 34 degrees. The lowest temperature on record, which occurred at Macon on January 11, 1962, is -2 degrees. In summer the average temperature is 80 degrees, and the average daily maximum temperature is 91 degrees. The highest recorded temperature, which occurred at Macon on July 30, 1952, is 108 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average precipitation is 56 inches. Of this, 26 inches, or about half the precipitation, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 20 inches. The heaviest 1-day rainfall during the period of record was 7.30 inches at Macon on April 13, 1979. Thunderstorms occur on about 60 days each year, and most occur in summer.

The average seasonal snowfall is 1 inch. The greatest snow depth at any one time during the period of record was 2 inches. Seldom is there a day that has at least 1 inch of snow on the ground. However, during an average year, measurable snowfall takes place during December, January, February, and March.

The average relative humidity in midafternoon is about 55 percent. Humidity is higher at night, and the average

at dawn is about 90 percent. The sun shines about 65 percent of the time possible in summer and about 50 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 8 miles per hour, in spring.

Severe local storms, including tornadoes, strike occasionally in or near the area. They are short and cause variable and spotty damage. Every few years in summer or in autumn, a tropical depression or remnant of a hurricane that has moved inland causes extremely heavy rains for 1 to 3 days.

Farming

Farming is the main source of income in Noxubee County and has been for many years. The climate is favorable for growing most grain crops and raising livestock.

Early in the history of the county, important crops were cotton, corn, and some small grains. Cotton was once the main source of income, but since 1930 there has been a sharp decline in cotton acreage planted: 58,700 acres of cotton was planted in 1930; 24,680 acres in 1950; 530 acres in 1980; and only 32 acres in 1981. Corn also has shown a decline in acreage planted: 33,176 acres of corn was planted in 1929; 25,363 acres in 1949; 11,100 acres in 1964; 3,600 acres in 1980; and 3,300 acres in 1981 *(5)*.

Dairying, once an important industry in Noxubee County, has also been on the decline. According to the census in 1960, there were 87 dairy herds that had 12,700 head of cattle; in 1970, 79 dairy herds that had 7,500 head of cattle; and in 1980, 36 dairy herds that had 3,300 head of cattle.

The raising of beef cattle has been an important source of income in the county through the years. The number of cattle raised has fluctuated somewhat according to market prices. According to the Census of Agriculture, in 1960, 21,100 head of beef cattle were raised in Noxubee County; in 1975, 27,700 head; and in 1980, 18,500 head.

According to a Columbus, Mississippi report, the largest ox and the largest hog in the world were raised in Noxubee County. The ox was reported as weighing over 3,000 pounds, and the hog as weighing 1,604 pounds.

As cotton and other crops declined in importance, soybeans increased from 4,300 acres planted in 1969 to 120,000 acres in 1980 but decreased to 118,000 acres in 1981 *(5)*. Wheat, which is mostly double-cropped with soybeans, increased from 800 acres planted in 1979 to 32,000 acres in 1982. Other crops grown in the county are oats, grain sorghum, and silage crops.

The number of farms has decreased for the past several years, but the average size of the farms has increased. According to the 1974 Census of Agriculture, there were 698 farms, and the average size of a farm was 411 acres; in 1978, there were 566 farms, and the average size was 473 acres.

About 41 percent of Noxubee County, or 183,600 acres, is in commercial forest land. This has always been a very important industry in Noxubee County.

About 13,347 acres of Federal land is in Noxubee County. This acreage includes a part of the Noxubee Wildlife Refuge in the northwest part of the county.

Settlement of the County

The area was settled in the early 1820's. It was ceded to the United States by the Choctaw Indians on September 27, 1830, in the Treaty of Dancing Rabbit Creek. In 1830, the area that makes up Noxubee County was a part of Lowndes County. Noxubee County was established by the Mississippi Legislature on December 23, 1833. Its name was taken from "Oka Nokshube," which in the Choctaw language means stinking water. The name was given to the county because of the stagnant backwater from the Noxubee River.

The county seat, Macon, was established March 14, 1834. The city of Macon was named for Senator Nathaniel Macon of North Carolina. Macon is located near the Noxubee River. During the Civil War, Macon served as the state capital. A state-owned lime pit that produces agricultural limestone is located just north of Macon.

The population of the county was about 21,000 in 1870 and increased to about 30,000 in 1900. In 1980 the population had decreased to less than 14,000.

The Black Belt Branch Experiment Station was established in Noxubee County in 1947 on 650 acres. This experiment station is a branch of the Mississippi Agricultural and Forestry Experiment Station. It is located about 2 miles northeast of Brooksville.

How This Survey Was Made

This survey was made to provide information about the soils in the survey area. The information includes a description of the soils and their location and a discussion of the suitability, limitations, and management of the soils for specified uses. Soil scientists observed the steepness, length, and shape of slopes; the general pattern of drainage; the kinds of crops and native plants growing on the soils; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material from which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils in the survey area occur in an orderly pattern that is related to the geology, the landforms, relief,

climate, and the natural vegetation of the area. Each kind of soil is associated with a particular kind of landscape or with a segment of the landscape. By observing the soils in the survey area and relating their position to specific segments of the landscape, a soil scientist develops a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientist to predict with considerable accuracy the kind of soil at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, acidity, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. The system of taxonomic classification used in the United States is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area are generally collected for laboratory analyses and for engineering tests. Soil scientists interpreted the data from these analyses and tests as well as the field-observed characteristics and the soil properties in terms of expected behavior of the soils under different uses. Interpretations for all of the soils were field tested through observation of the soils in different uses under different levels of management. Some interpretations are modified to fit local conditions, and new interpretations sometimes are developed to meet local needs. Data were assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management were assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can state with a fairly high degree of probability that a given soil will have a high water table within certain depths in most years, but they cannot assure that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by several kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of soils of other taxonomic classes. Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. In the detailed soil map units, these latter soils are called inclusions or included soils. In the general soil map units, they are called soils of minor extent.

Most inclusions have properties and behavioral patterns similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusions of contrasting soils are mentioned in the map unit descriptions. A few inclusions may not have been observed, and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soils on the landscape.

The presence of inclusions in a map unit in no way diminishes the usefulness or accuracy of the soil data.

The objective of soil mapping is not to delineate pure taxonomic classes of soils but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but onsite investigation is needed to plan for intensive uses in small areas.

The descriptions, names, and delineations of soils in this survey do not fully agree with those on soil maps for adjacent counties. Differences are the result of better knowledge of soils, modification in series concepts, intensity of mapping, or the extent of soils within the survey area.

General Soil Map Units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, a map unit consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one unit can occur in other units but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or a building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Dominantly Nearly Level and Gently Sloping Soils on Flood Plains and Stream Terraces; Subject to Flooding

The soils of the three general soil map units in this group are on flood plains and terraces of large streams. The major soils are the clayey Catalpa and Leeper soils; the loamy Cahaba, Latonia, Mantachie, and Quitman soils; and the silty Urbo soils. These soils are well drained to somewhat poorly drained. Slopes range from 0 to 3 percent. This group makes up about 21 percent of the county.

1. Leeper-Catalpa

Nearly level, somewhat poorly drained and moderately well drained, clayey soils; on flood plains

The soils in this map unit are on flood plains of creeks, mainly in the eastern and central parts of the county. The landscape is nearly level and contains sloughs and depressions. Slopes range from 0 to 2 percent.

This map unit makes up about 8 percent of the county. It is about 65 percent Leeper soils, 33 percent Catalpa soils, and 2 percent soils of minor extent.

The somewhat poorly drained Leeper soils and the moderately well drained Catalpa soils are on flood plains. These soils formed in clayey alluvium.

The soils of minor extent are the moderately well drained Griffith soils. These soils are in higher areas of flood plains near the uplands.

Most of the acreage of this map unit is used for cultivated crops. Many of the frequently flooded areas, however, are in woodland.

In occasionally flooded areas, the Leeper and Catalpa soils are well suited to crops and pasture plants; in frequently flooded areas, they are poorly suited to crops. The hazard of flooding and wetness are the main limitations for crops.

The soils in this map unit are well suited to woodland.

The Leeper soils in this map unit have good potential for use as habitat for openland and woodland wildlife and fair potential for use as habitat for wetland habitat. The Catalpa soils have fair potential for use as habitat for openland and wetland wildlife and good potential for use as habitat for woodland wildlife.

These soils have severe limitations for urban use because of flooding and wetness.

2. Urbo-Mantachie-Quitman

Nearly level, somewhat poorly drained, silty and loamy soils and moderately well drained, loamy soils; on flood plains and stream terraces

The soils in this map unit are on flood plains and stream terraces that are mainly along the flood plain of the Noxubee River and its tributaries from the west. The landscape is nearly level; it has shallow drainageways, depressions, and a few old river runs and oxbow lakes. Slopes range from 0 to 2 percent.

This map unit makes up about 12 percent of the county. It is about 37 percent Urbo soils, 31 percent Mantachie soils, 11 percent Quitman soils, and 11 percent soils of minor extent.

The somewhat poorly drained Urbo soils are on flood plains on the broad flats and in depressions away from the main streams. These soils formed in clayey alluvium. The somewhat poorly drained Mantachie soils are on flood plains and generally are in the slightly higher areas and near some of the stream channels. These soils formed in loamy alluvium. The moderately well drained Quitman soils are on stream terraces. These soils formed in loamy material.

The soils of minor extent are the well drained Jena soils and the moderately well drained Mooreville soils on flood plains.

Most of the acreage of this map unit is in woodland. The rest of the acreage is used for cultivated crops.

The soils in this map unit are well suited to crops and pasture plants commonly grown in the area. The hazard of flooding and wetness are the main limitations for crops and pasture.

These soils are well suited to woodland.

The Urbo soils have fair potential for use as habitat for openland wildlife and Mantachie and Quitman soils have good potential. The soils in this map unit have good potential for use as habitat for woodland wildlife. The Urbo soils have good potential for use as habitat for wetland wildlife, Mantachie soils have fair potential, and Quitman soils have poor potential.

Flooding and wetness are severe limitations to use of the soils in this map unit for urban use.

3. Latonia-Cahaba

Nearly level and gently sloping, well drained, loamy soils; on stream terraces

The soils in this map unit are in the extreme northeastern part of Noxubee County. They are on stream terraces on the west side of the Tombigbee River. The landscape consists of nearly level wooded flats that have a few depressions and intermittent stream channels. Slopes range from 0 to 3 percent.

This map unit makes up about 1 percent of the county. It is about 40 percent Latonia soils, 30 percent Cahaba soils, and 30 percent soils of minor extent.

The Latonia soils are on stream terraces. These soils formed in sediment that is loamy in the upper part and sandy in the lower part. The Cahaba soils are on stream terraces. These soils formed in loamy material.

The soils of minor extent are the somewhat poorly drained Mantachie and Urbo soils on narrow flood plains. Also of minor extent are soils on stream terraces that are similar to Cahaba soils except they have a browner subsoil and have grayish mottles within a depth of 30 inches. Areas of floodwater from the Aliceville Lock and Dam on the Tombigbee River are also included.

Most of the acreage in this map unit is in woodland. There are a few scattered food plots for wildlife.

The Latonia and Cahaba soils in this map unit are well suited to cultivated crops and pasture plants that are commonly grown in the county.

The soils in this map unit are well suited to woodland.

These soils have good potential for use as habitat for openland and woodland wildlife and very poor potential for use as habitat for wetland wildlife.

The hazard of flooding is a severe limitation to use of these soils for urban use.

Dominantly Nearly Level to Sloping Soils on Uplands and Stream Terraces

The soils of the four general soil map units in this group are on nearly level to sloping uplands and nearly level to gently sloping stream terraces. The major soils are the loamy Freest, Prentiss, Savannah, Stough, and Vimville soils and the silty Falkner, Longview, and Wilcox soils. These soils are moderately well drained to poorly drained. Slopes range from 0 to 8 percent. This group makes up about 22 percent of the county.

4. Stough-Freest-Vimville

Nearly level and gently sloping, somewhat poorly drained, moderately well drained, and poorly drained, loamy soils; on stream terraces and uplands

The soils in this map unit are mainly on lower-lying uplands and stream terraces. These soils are in the general area of the Noxubee River, which flows diagonally across the county from northwest to southeast. The landscape consists of nearly level flats that have depressions and a few gently sloping hillsides. Slopes range from 0 to 5 percent.

This map unit makes up about 3 percent of the county. It is about 50 percent Stough soils, 20 percent Freest soils, 15 percent Vimville soils, and 15 percent soils of minor extent.

The somewhat poorly drained Stough soils are on broad upland flats and stream terraces. These soils formed in loamy material. The moderately well drained Freest soils are on upland flats, hillsides, and stream terraces. These soils formed in sediment that is loamy in the upper part and clayey in the lower part. The poorly drained Vimville soils are on uplands and stream terraces. These soils formed in loamy material.

The soils of minor extent are Prentiss, Talla, Mantachie, and Urbo soils. The moderately well drained Prentiss soils are on uplands and stream terraces. The somewhat poorly drained Talla soils are on upland flats and stream terraces. The somewhat poorly drained Mantachie and Urbo soils are on narrow flood plains.

About 50 percent of the acreage in this map unit is used for cultivated crops or pasture. The rest of the acreage is in woodland.

The nearly level Stough and Freest soils are well suited to cultivated crops and pasture plants. Vimville soils are moderately suited to cultivated crops and well suited to pasture plants commonly grown in the area. Wetness is the main limitation for crops and pasture on Vimville soils.

The soils in this map unit are well suited to woodland.

Stough and Freest soils have good potential for use as habitat for openland and woodland wildlife. Stough soils have fair potential for use as habitat for wetland wildlife and Freest soils have poor potential. Vimville soils have fair potential for use as habitat for openland wildlife and good potential for use as habitat for woodland and wetland wildlife.

Wetness is a severe limitation to use of these soils for urban use. The Freest soils also have severe limitations for urban use because of the high shrink-swell potential of the subsoil.

5. Falkner-Longview-Savannah

Nearly level to sloping, somewhat poorly drained, silty soils and moderately well drained, loamy soils; on uplands and stream terraces

The soils in this map unit are mainly in the western and west-central parts of the county, locally known as the "Flatwoods." The landscape consists of nearly level to gently sloping flats and a few sloping hillsides. Slopes range from 0 to 8 percent.

This map unit makes up about 13 percent of the county. It is about 55 percent Falkner soils, 11 percent Longview soils, 10 percent Savannah soils, and 15 percent soils of minor extent.

The somewhat poorly drained Falkner soils are mainly on broad upland flats and hillsides. These soils formed in a mantle of silty material underlain by clayey marine deposits. The somewhat poorly drained Longview soils are on broad upland flats and hillsides. These soils formed in silty material. The moderately well drained Savannah soils are on uplands and stream terraces. These soils formed in loamy material and have a fragipan.

The soils of minor extent are Prentiss, Stough, Wilcox, Mantachie, and Urbo soils. The moderately well drained Prentiss soils have a fragipan and are on uplands and stream terraces. The somewhat poorly drained Stough soils are on uplands and stream terraces. The somewhat poorly drained Wilcox soils are on uplands. The somewhat poorly drained Mantachie and Urbo soils are on narrow flood plains.

Most of the acreage in this map unit is in woodland. A small acreage is used for row crops or pasture.

The nearly level Falkner soils and the nearly level and gently sloping Longview and Savannah soils are well suited to cultivated crops and pasture plants that are commonly grown in the county. The gently sloping Falkner soils and sloping Savannah soils are moderately suited to cultivated crops and pasture plants.

The Falkner and Longview soils are well suited to woodland. The Savannah soils are moderately suited to woodland.

The soils in this map unit have good potential for use as habitat for openland and woodland wildlife. Falkner soils have fair to very poor potential for use as habitat for wetland wildlife. Longview soils have fair to poor potential for use as habitat for wetland wildlife. Savannah soils have very poor potential for use as habitat for wetland wildlife.

The Falkner soils have severe limitations for urban use because of the shrink-swell potential of the subsoil. Wetness is a severe limitation of Longview soils for urban use. The Savannah soils have moderate to severe limitations for urban use because of wetness.

6. Wilcox-Falkner

Nearly level to sloping, somewhat poorly drained, silty soils; on uplands

The soils in this map unit are mainly in the western and southern parts of the county, locally known as the "Flatwoods." The landscape consists of nearly level flats, sloping hillsides, and some narrow flood plains. Slopes range from 0 to 8 percent.

This map unit makes up about 3 percent of the county. It is about 55 percent Wilcox soils, 30 percent Falkner soils, and 15 percent soils of minor extent.

The Wilcox soils are on upland ridges and hillsides. These soils formed in clayey marine sediment. The Falkner soils are on upland flats and hillsides. These soils formed in a mantle of silty material underlain by clayey marine deposits.

The soils of minor extent are Longview, Sweatman, Mantachie, and Urbo soils. The somewhat poorly drained Longview soils are on upland flats. The well drained Sweatman soils are on upland hillsides. The somewhat poorly drained Mantachie and Urbo soils are on narrow flood plains.

Most of the acreage in this map unit is used for woodland. A small acreage is used for cultivated crops or pasture.

The gently sloping Wilcox and Falkner soils are moderately suited to row crops. The nearly level Falkner soils are well suited to row crops. The Falkner soils are well suited to pasture plants, and the Wilcox soils are moderately suited to pasture plants.

The Falkner soils are well suited to woodland. The Wilcox soils are moderately suited to woodland.

The soils in this map unit have good potential for use as habitat for openland and woodland wildlife except for the sloping Wilcox soils that have fair potential for use as habitat for openland wildlife. The potential of the Wilcox soils is poor or very poor for use as habitat for wetland wildlife and the potential of Falkner soils ranges from fair to very poor.

The soils in this map unit have severe limitations for urban use because of low strength as it affects local roads and streets and because of the high shrink-swell potential of these soils.

7. Stough-Prentiss

Nearly level and gently sloping, somewhat poorly drained and moderately well drained, loamy soils; on uplands and stream terraces

The soils in this map unit are in three areas in the western, southwestern, and southern parts of the county and are within the area locally known as the "Flatwoods." The landscape is mainly broad flats broken by gently sloping hillsides. Slopes range from 0 to 5 percent.

This map unit makes up about 3 percent of the county. It is about 48 percent Stough soils, 40 percent Prentiss soils, and 12 percent soils of minor extent.

The somewhat poorly drained Stough soils are on broad upland flats. These soils formed in loamy material. The moderately well drained Prentiss soils are on uplands and stream terraces. These soils formed in loamy material and have a fragipan.

The soils of minor extent are Ruston, Savannah, and Mantachie soils. The well drained Ruston soils are on uplands. The moderately well drained Savannah soils are on uplands and stream terraces. The somewhat poorly drained Mantachie soils are on narrow flood plains.

About half of the acreage of this map unit is in woodland. The rest of the acreage is used for cultivated crops or pasture.

The nearly level soils in this map unit are well suited to row crops and pasture plants that are commonly grown in the county. The gently sloping Stough soils are moderately suited to cultivated crops, and the gently sloping Prentiss soils are well suited to cultivated crops.

The soils in this map unit are well suited to woodland.

The soils in this map unit have good potential for use as habitat for openland and woodland wildlife. Stough soils have fair potential for use as habitat for wetland wildlife and Prentiss soils have poor potential.

Because of wetness, Stough soils have severe limitations for urban use and Prentiss soils have moderate limitations. Prentiss soils have severe limitations for dwellings with basements because of wetness.

Dominantly Gently Sloping to Steep Soils on Uplands

The soils of the three general soil map units of this group are on gently sloping to sloping upland ridges and sloping to steep upland hillsides. The major soils are the loamy Savannah and Smithdale soils and the silty Sweatman and Wilcox soils. These soils are well drained to somewhat poorly drained. Slopes range from 2 to 35 percent. This group makes up about 7 percent of the county.

8. Smithdale-Sweatman

Steep, well drained, loamy and silty soils; on uplands

The soils in this map unit are mainly in one large area in the southwestern part of the county. The characteristic landscape of this map unit is one of prominent relief. It is dissected uplands that have gently rolling ridgetops separated by steep hillsides. Well defined stream channels wind through narrow flood plains. Slopes range from 15 to 35 percent.

This map unit makes up about 4 percent of the county. It is about 58 percent Smithdale soils, 20 percent Sweatman soils, and 22 percent soils of minor extent.

The Smithdale soils are on steep upland hillsides. These soils formed in loamy material. The Sweatman soils are mainly on lower parts of steep hillsides. These soils formed in stratified shaley clay and loamy sediment.

The soils of minor extent are Lucy, Ruston, Mantachie, and Ochlockonee soils. The well drained Lucy soils are on some of the upper parts of steep hillsides. The well drained Ruston soils are on ridges. The somewhat poorly drained Mantachie soils and the well drained Ochlockonee soils are on the narrow flood plains.

Most of the acreage of this map unit is in pine and hardwood woodland. Scattered on the wider ridgetops and on a few of the valley bottom lands are some acreages of row crops and pasture.

The soils in this map unit are poorly suited to cultivated crops and pasture plants because of the steepness of slope and the severe erosion hazard.

The soils in this map unit are moderately suited to woodland.

These soils have fair potential for use as habitat for openland wildlife, good potential for use as habitat for woodland wildlife, and very poor potential for use as habitat for wetland wildlife.

Smithdale soils have severe limitations for urban use because of steepness of slope. Steepness of slope and the high shrink-swell potential of the Sweatman soils are severe limitations for urban use.

9. Smithdale-Savannah

Gently sloping to steep, well drained and moderately well drained, loamy soils; on uplands

The soils in this map unit are in the extreme southwestern part of the county. The landscape consists mainly of steep, dissected uplands in the northern part of the area and gently sloping ridgetops and strongly sloping hillsides in the southern part. Slopes range from 2 to 35 percent.

This map unit makes up less than 1 percent of the county. It is about 63 percent Smithdale soils, 16 percent Savannah soils, and 21 percent soils of minor extent.

The well drained Smithdale soils are on upland hillsides. These soils formed in loamy material. The moderately well drained Savannah soils are on upland ridges and hillsides. They formed in loamy material and have a fragipan.

The soils of minor extent are Ruston, Lucy, and Sweatman soils. The well drained Ruston soils are on the upland ridges. The well drained Lucy and Sweatman soils are on the steep upland hillsides.

About half of the acreage of this map unit is in woodland. The rest of the acreage is used for cultivated crops or pasture.

The strongly sloping to steep Smithdale soils are poorly suited to cultivated crops commonly grown in the county because of the steepness of slope and the severe erosion hazard. The gently sloping Savannah soils are well suited to cultivated crops and pasture plants. The sloping Savannah soils are moderately suited to row crops and moderately suited to pasture plants. The strongly sloping to moderately steep Smithdale soils

are moderately suited to pasture plants and the steep Smithdale soils are poorly suited.

These soils are moderately suited to woodland.

The soils in this map unit have good potential for use as habitat for openland and woodland wildlife except the steep Smithdale soils have fair potential for use as habitat for openland wildlife. Smithdale and Savannah soils have very poor potential for use as habitat for wetland wildlife.

The steep Smithdale soils have severe limitations for urban use because of the steepness of slope. The strongly sloping to moderately steep Smithdale soils have moderate limitations for urban use. The Savannah soils have moderate to severe limitations for urban use because of wetness.

10. Wilcox

Moderately steep to steep, somewhat poorly drained, silty soils; on uplands

The soils in this map unit are in the western and southwestern parts of the county. It consists of some of the steeper parts of the area locally known as the "Flatwoods." The landscape is moderately steep to steep hillsides and gently rolling, winding ridgetops. Most areas are dissected by many short intermittent streams. Slopes range from 12 to 35 percent.

This map unit makes up about 2 percent of the county. It is about 70 percent Wilcox soils and 30 percent soils of minor extent.

The Wilcox soils are on steep hillsides and on some of the ridgetops. These soils formed in clayey marine sediment.

The soils of minor extent are Falkner, Sweatman, Mantachie, and Urbo soils. The somewhat poorly drained Falkner soils are on upland ridges. The well drained Sweatman soils are on upper parts of upland hillsides. The somewhat poorly drained Mantachie and Urbo soils are on the narrow flood plains.

Most of the acreage of this map unit is in woodland. Scattered on some of the wider ridgetops and in a few of the bottom lands are small acreages of cultivated crops and pasture.

The soils of this map unit are poorly suited to row crops because of the steepness of slope and the severe erosion hazard. The strongly sloping and moderately steep soils are moderately suited to pasture plants, and the steep soils are poorly suited to pasture plants.

These soils are moderately suited to woodland.

The soils in this map unit have fair potential for use as habitat for openland wildlife and good potential for habitat for woodland wildlife. These soils have very poor potential for use as habitat for wetland wildlife.

These soils have severe limitations for urban use because of steepness of slope and the high shrink-swell potential of the subsoil.

Dominantly Nearly Level to Moderately Steep Soils Over Chalk on Uplands

The soils of the four general soil map units of this group are on upland flats, ridges, hillsides, and stream terraces. The major soils are the clayey Brooksville, Okolona, Sumter, and Vaiden soils; the silty Kipling and Oktibbeha soils; and the loamy Freest and Savannah soils. These soils are well drained to somewhat poorly drained. Slopes range from 0 to 17 percent. This group makes up about 50 percent of the county.

11. Vaiden-Brooksville-Okolona

Nearly level to sloping, somewhat poorly drained and well drained, clayey soils; on uplands

The soils in this map unit are in one broad area in the eastern part of the county on the east side of the Noxubee River. The landscape is nearly level to sloping. This area includes most of the Blackland Prairie part of the county. Slopes range from 0 to 8 percent.

This map unit makes up about 32 percent of the county. It is about 40 percent Vaiden soils, 16 percent Brooksville soils, 11 percent Okolona soils, and 33 percent soils of minor extent.

The somewhat poorly drained Vaiden soils are on broad upland flats, ridges, and hillsides. These soils formed in acid clayey material underlain by chalk. The somewhat poorly drained Brooksville soils are on broad upland flats and gently sloping hillsides. These soils formed in acid clayey material and the underlying calcareous material. The well drained Okolona soils are on broad upland flats and hillsides. These soils formed in basic clayey material underlain by marly clay and chalk.

The soils of minor extent are Binnsville, Demopolis, Griffith, and Leeper soils. The well drained Binnsville and Demopolis soils are on uplands. The moderately well drained Griffith soils and somewhat poorly drained Leeper soils are on flood plains.

Most of the acreage of this map unit is used for cultivated crops. Most of the remaining acreage is used as pasture or hayland. Some patchy areas are in woodland.

The nearly level and gently sloping Vaiden soils are moderately suited to cultivated crops, and the sloping Vaiden soils are poorly suited to cultivated crops. The nearly level and gently sloping Brooksville and Okolona soils are well suited to row crops and pasture plants commonly grown in the area. The Vaiden soils are moderately suited to most pasture plants commonly grown in the area.

The Vaiden soils are moderately suited to woodland. The Brooksville and Okolona soils are poorly suited to woodland.

Vaiden and Brooksville soils have fair potential for use as habitat for openland wildlife and Okolona soils have good potential. The soils of this map unit have good potential for use as habitat for woodland wildlife.

Brooksville soils have fair potential for use as habitat for wetland wildlife, Okolona soils have very poor potential, and Vaiden soils have poor potential.

The soils in this map unit have severe limitations for urban use because of the high shrink-swell potential of the subsoil. Also, Vaiden and Brooksville soils have severe limitations for urban use because of wetness.

12. Kipling-Freest

Nearly level to sloping, somewhat poorly drained, silty soils and moderately well drained, loamy soils; on uplands

The soils in this map unit are in the west-central and southern parts of the county on the west side of the Noxubee River. The landscape is mainly nearly level to sloping. Areas of this map unit are on transitions between the Blackland Prairie part of the county and the area known locally as the "Flatwoods." Slopes range from 0 to 8 percent.

This map unit makes up about 4 percent of the county. It is about 42 percent Kipling soils, 18 percent Freest soils, and 40 percent soils of minor extent.

The somewhat poorly drained Kipling soils are on broad upland flats, ridges, and hillsides. These soils formed in acid clayey material over chalk. The moderately well drained Freest soils are on broad upland flats, hillsides, and stream terraces. These soils formed in sediment that is loamy in the upper part and clayey in the lower part.

The soils of minor extent are Savannah, Sessum, and Stough soils. The moderately well drained Savannah soils are on upland ridges and hillsides. The poorly drained Sessum soils are on broad upland flats. The somewhat poorly drained Stough soils are on broad upland flats and stream terraces.

About 75 percent of the acreage in this map unit is used for cultivated crops or pasture. The rest of the acreage is in woodland.

The nearly level and gently sloping Kipling soils are moderately suited to row crops, the sloping Kipling soils are poorly suited, and the Freest soils are well suited. The soils in this map unit are moderately suited to pasture plants commonly grown in the county.

The soils in this map unit are well suited to woodland.

Kipling soils and Freest soils have good potential for use as habitat for openland and woodland wildlife. The nearly level Kipling soils have fair potential for use as habitat for wetland wildlife, the nearly level Freest soils have poor potential, and the gently sloping Kipling and Freest soils have poor potential.

The high shrink-swell potential of the subsoil and low strength as it affects local roads and streets are severe limitations to use of the soils in this map unit for urban use. Also, Freest soils have severe limitations for urban use because of wetness.

13. Kipling-Savannah-Oktibbeha

Gently sloping to moderately steep, somewhat poorly drained, silty soils and moderately well drained, loamy and silty soils; on uplands

The soils in this map unit is in the northwestern, central, and southeastern parts of the county in an irregular, discontinuous band that stretches diagonally across the county. The landscape is gently sloping to sloping ridgetops and strongly sloping to moderately steep hillsides. In most areas, the soils of this map unit are dissected by many intermittent streams and narrow flood plains. Slopes range from 2 to 15 percent.

This map unit makes up about 10 percent of the county. It is about 35 percent Kipling soils, about 34 percent Savannah soils, about 16 percent Oktibbeha soils, and 15 percent soils of minor extent.

The somewhat poorly drained Kipling soils are on ridges and hillsides. These soils formed in acid clayey material over chalk. The moderately well drained Savannah soils are mainly on narrow ridgetops and hillsides. These soils formed in loamy material and have a fragipan. The moderately well drained Oktibbeha soils are on upland ridgetops and hillsides. These soils formed in acid clayey material underlain by marly clays and chalk.

The soils of minor extent are Binnsville, Demopolis, Sumter, Leeper, and Marietta soils. The well drained Binnsville, Demopolis, and Sumter soils are on uplands. The somewhat poorly drained Leeper soils and the moderately well drained Marietta soils are on the narrow flood plains. Also included are a few small areas of soils that have slopes of as much as 25 percent.

Most of the less sloping areas of this map unit are used for cultivated crops. Some areas are used for pasture. Most of the steeper soils have remained in cutover woodland or in pasture.

The gently sloping Kipling and Oktibbeha soils are moderately suited to row crops. The steeper areas of these soils are poorly suited to row crops because of steepness of slope and the severe erosion hazard. The gently sloping Savannah soils are well suited to row crops and the sloping areas of these soils are moderately suited. The gently sloping areas of Savannah and Oktibbeha soils are well suited to pasture plants and the sloping to moderately steep areas of these soils are moderately suited.

The Kipling soils are well suited to woodland. The Oktibbeha and Savannah soils are moderately suited to woodland.

The Kipling and Savannah soils have good potential for use as habitat for openland wildlife and Oktibbeha soils have fair potential. The soils in this map unit have good potential for use as habitat for woodland wildlife. These soils have poor or very poor potential for use as habitat for wetland wildlife.

The Kipling and Oktibbeha soils have severe limitations for urban use because of the high shrink-swell potential of the subsoil and low strength as it affects local roads and streets. The Savannah soils have moderate limitations for most urban use and have severe limitations for dwellings with basements because of wetness.

14. Sumter-Kipling

Nearly level to moderately steep, well drained, clayey soils and somewhat poorly drained, silty soils; on uplands

The soils in this map unit are in areas mainly in the northern, central, eastern, and southern parts of the county. The landscape is nearly level and gently sloping flats and ridges and sloping to moderately steep hillsides. Most of the hillsides have been dissected by many short intermittent streams and narrow flood plains. Slopes range from 0 to 17 percent.

This map unit makes up about 4 percent of the county. Is is about 53 percent Sumter soils, about 25 percent Kipling soils, and 22 percent soils of minor extent.

The well drained Sumter soils are on upland ridgetops and hillsides. These soils formed in marly clays over chalk. The somewhat poorly drained Kipling soils are on upland flats, ridgetops, and hillsides. These soils formed in acid clayey material over chalk.

The soils of minor extent are Binnsville, Demopolis, Oktibbeha, Leeper, and Griffith soils. The well drained Binnsville and Demopolis soils and the moderately well drained Oktibbeha soils are on uplands. The somewhat poorly drained Leeper soils and the moderately well drained Griffith soils are on narrow flood plains. Some small areas that have been dissected by many deep gullies or contain areas of chalk outcrop are included.

In many areas, the sloping to moderately steep soils in this map unit have not been cleared. The soils in areas that have been cleared and used for row crops have been damaged by severe sheet and gully erosion. Most of these severely eroded areas are reverting to cedar trees or osageorange trees, or they are in pasture. Mixed stands of hardwood and pine timber are in some areas that have acid soils on the steep slopes.

The nearly level or gently sloping soils in this map unit are moderately suited to cultivated crops and pasture plants. The steeper and severely eroded soils are poorly suited to row crops because of the severe erosion hazard. Sloping to moderately steep Sumter soils are poorly suited to pasture plants and sloping to strongly sloping Kipling soils are moderately suited.

The Kipling soils are well suited to woodland. The Sumter soils are poorly suited to woodland because of low productivity and the limited number of adapted trees.

These soils have severe limitations for urban use because of the high shrink-swell potential of the subsoil.

The Sumter soils have fair potential for use as habitat for openland wildlife and the Kipling soils have good potential. The Sumter soils have fair potential for use as habitat for woodland wildlife and the Kipling soils have good potential. The Sumter soils have very poor potential for use as habitat for wetland wildlife and the Kipling soils have fair to very poor potential.

Broad Land Use Considerations

The soils in Noxubee County vary widely in their suitabilities and limitations for major land uses. About 36 percent of the county is used as cropland, according to the 1978 Census of Agriculture *(16)*. Most of the cultivated acreage is in the eastern part of the county. Map units 1, 2, 3, 4, 5, 7, 11, and 12 on the general soil map have extensive areas that are well suited or moderately suited to cultivated crops.

About 21 percent of the land area in the county is used for pasture, which is scattered throughout the county. Pasture grasses and legumes are well suited or moderately suited to the soils in all map units except soils in map units 8, 9, and 10, that have slopes that exceed 17 percent.

About 41 percent of the county is woodland *(13)*. All map units in the county except 11 and 14, which are in the Blackland Prairie, are well suited or moderately suited to woodland. Commercially valuable trees do not grow well on Brooksville, Okolona, or Sumter soils. Kipling, Savannah, Smithdale, Sweatman, Vaiden, and Wilcox soils are moderately suited to woodland.

About 2 percent of the county is urban, roads, or built-up areas. In general, the soils that have slight to moderate limitations for urban use are the nearly level to sloping Prentiss and Savannah soils and areas of Smithdale soils that have slopes of less than 15 percent. These soils are in map units 5, 7, 9, and 13. Prentiss and Savannah soils are limited mainly by wetness. The moderately slow permeability of the fragipan is a severe limitation for septic tank absorption fields during periods of heavy use. The main limitation of Smithdale soils is steepness of slopes.

The soils in map units 1 and 2 have severe limitations for urban use because of wetness and the hazard of flooding. The soils in map unit 3 have severe limitations for urban use because of the hazard of flooding. The soils in map units 4, 6, 10, 11, 12, 13, and 14 have severe limitations for urban use because of wetness or high shrink-swell potential, which causes foundations to crack, and restricted permeability, which causes septic tank absorption fields to fail during periods of heavy use or high rainfall.

The hilly areas of Smithdale and Sweatman soils in map units 8 and 9 have severe limitations for urban use because of steepness of slope. Gently sloping ridges and flats in these hilly areas, however, are well suited or moderately suited as sites for houses and small commercial buildings.

Detailed Soil Map Units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and Management of the Soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Brooksville silty clay, 0 to 1 percent slopes, is one of several phases in the Brooksville series.

Some map units are made up of two or more major soils. These map units are called soil complexes or soil associations.

A *soil complex* consists of two or more soils in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Demopolis-Binnsville complex, 2 to 8 percent slopes, eroded, is an example.

A *soil association* is made up of two or more geographically associated soils that are shown as one unit on the maps. Because of present or anticipated soil uses in the survey area, it was not considered practical or necessary to map the soils separately. The pattern and relative proportion of the soils are somewhat similar. Sweatman-Smithdale association, hilly, is an example.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. These areas, too small to be delineated, are identified by a special symbol on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of Tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

Be—Belden silt loam, frequently flooded. This deep, somewhat poorly drained, nearly level soil is on flood plains. It formed in mixed alluvium that is high in silt content. This soil is subject to long periods of frequent flooding in winter and during the early part of the growing season. The slope ranges from 0 to 2 percent.

Typically, the surface layer is dark grayish brown silt loam to a depth of about 6 inches. The upper part of the subsoil is grayish brown silt loam that has brownish mottles to a depth of about 15 inches. The next layer, to a depth of about 23 inches, is dark grayish brown silt loam mottled in shades of brown and gray. Below that, to a depth of about 40 inches, is light brownish gray loam mottled in shades of brown. The lower part of the subsoil is loam mottled in shades of brown and gray to a depth of about 53 inches. The underlying material is loam mottled in shades of gray and brown to a depth of 65 inches.

This Belden soil ranges from medium acid to neutral in the surface layer. It is medium acid or slightly acid in the upper part of the subsoil and ranges from medium acid to neutral in the lower part of the subsoil and in the underlying material. Permeability is moderate, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table

fluctuates between a depth of 1 foot and 1 1/2 feet in wet periods.

Included with this soil in mapping are small areas of Marietta and Ochlockonee soils on flood plains. Marietta soils are moderately well drained. Ochlockonee soils are well drained. Also included are small areas of soils on low elevations that are flooded for long periods. Sloughs and old channels generally are ponded except during prolonged droughts.

Most of the acreage of this Belden soil is used as woodland. Some areas that are less subject to flooding are used for pasture or hay.

This soil is poorly suited to row crops because of wetness and frequent flooding.

This soil is moderately suited to grasses and legumes for hay or pasture. Wetness and flooding limit the choice of pasture plants that can be grown on this soil. Plant survival also is limited by wetness and flooding. Grazing should be deferred during periods of wetness. In some areas, livestock has to be moved to a higher elevation when flooding is imminent. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to eastern cottonwood, southern red oak, white oak, loblolly pine, sweetgum, American sycamore, yellow-poplar, and green ash. Seasonal wetness and flooding are moderate limitations to use of equipment on this soil. These limitations can be partly overcome by logging during the drier periods. Seedling mortality and plant competition are moderate.

Seasonal wetness and flooding are severe limitations for dwellings and for most other urban uses. Low strength is a severe limitation for local roads and streets. Flooding and wetness also are severe limitations to use as septic tank absorption fields.

This Belden soil is in capability subclass IVw and in woodland suitability group 1w8.

BrA—Brooksville silty clay, 0 to 1 percent slopes. This deep, somewhat poorly drained, nearly level soil is on broad upland flats. This soil formed in an acid, clayey material and in the underlying calcareous material.

Typically, the surface layer is a very dark grayish brown silty clay to a depth of about 6 inches. The next layer is very dark grayish brown silty clay to a depth of about 18 inches. The next layer is very dark grayish brown silty clay mottled in shades of red and brown to a depth of 23 inches. The next layer, to a depth of 36 inches, is dark grayish brown silty clay mottled in shades of red and brown. The clay material has a few intersecting slickensides. The next layer, to a depth of about 53 inches, is clay mottled in shades of brown and red that has intersecting slickensides. Below that, the underlying material is clay mottled in shades of brown to a depth of 67 inches. The clay material has intersecting slickensides.

This Brooksville soil ranges from strongly acid to slightly acid in the surface layer except in areas where it has been limed. Below that, the soil ranges from neutral to moderately alkaline. Permeability is very slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 2 to 4 feet in wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Kipling, Okolona, and Vaiden soils on uplands. Kipling and Vaiden soils are somewhat poorly drained. Okolona soils are well drained. Also included are small areas of soils that have a surface layer that has been thinned by erosion.

Most of the acreage of this Brooksville soil is used for row crops. The remaining acreage mostly is used for pasture or hay.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth and help control erosion. In some places, proper arrangement of plant rows and surface field ditches are needed to remove surface water.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is poorly suited to woodland, but eastern redcedar and osageorange can be grown on this soil. Low productivity is the main limitation for woodland use and the main concern in management. Seasonal wetness is a moderate limitation to use of equipment on this soil, but this limitation can be partly overcome by logging in dry periods. Seedling mortality is a moderate limitation.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The very slow permeability of the clay subsoil and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Brooksville soil is in capability subclass IIw and in woodland suitability group 4c2c.

BrB—Brooksville silty clay, 1 to 3 percent slopes. This deep, somewhat poorly drained, gently sloping soil is on broad upland flats and hillsides. This soil formed in an acid, clayey material and in the underlying calcareous material.

Typically, the surface layer is dark brown silty clay to a depth of about 8 inches. The next layer is dark brown silty clay that has reddish mottles to a depth of about 2l inches. The next layer, to a depth of about 40 inches, is silty clay mottled in shades of brown and red. In the lower part of this layer, the silty clay material has intersecting slickensides. The next layer is clay mottled in shades of brown and gray that has intersecting slickensides to a depth of about 75 inches.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer. In a few areas, the thickness and character of the original plow layer have been modified.

This Brooksville soil ranges from strongly acid to slightly acid in the surface layer except in areas where it has been limed. Below that, the soil ranges from neutral to moderately alkaline. Permeability is very slow and the available water capacity is high. Runoff is slow or medium. Erosion is a moderate hazard. The seasonal high water table is at a depth of 2 to 4 feet in wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Kipling, Okolona, Sumter, and Vaiden soils on uplands. Kipling and Vaiden soils are somewhat poorly drained. Okolona and Sumter soils are well drained.

Most of the acreage of this Brooksville soil is used for crops. The remaining acreage mostly is used for pasture or hay.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, terraces, grassed waterways (fig. 1), contour farming, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control reduce erosion and help keep the pasture and soil in good condition.

This soil is poorly suited to woodland. Eastern redcedar and osageorange can be grown on this soil and are the recommended trees to plant. Low productivity is the main limitation for woodland use and management. Seasonal wetness is a moderate limitation to use of equipment on this soil, but this limitation can

Figure 1.—Grassed waterway in a field of soybeans. This soil is Brooksville silty clay, 1 to 3 percent slopes.

be partly overcome by logging during the drier periods. Seedling mortality is moderate.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The very slow permeability of the clayey subsoil and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Brooksville soil is in capability subclass IIe and in woodland suitability group 4c2c.

CaA—Cahaba fine sandy loam, 0 to 2 percent slopes. This deep, well drained, nearly level soil is on stream terraces. This soil formed in loamy and sandy material.

Typically, the surface layer is dark brown fine sandy loam to a depth of about 5 inches and is underlain by brown loam to a depth of about 8 inches. The upper part of the subsoil is yellowish red loam to a depth of about 17 inches, the middle part is red loam to a depth of about 31 inches, and the lower part is yellowish red sandy loam to a depth of about 38 inches. The underlying material, to a depth of about 62 inches, is strong brown sandy loam mottled in shades of brown and red. Below that, it is loamy sand mottled in shades of brown to a depth of about 80 inches.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Cahaba soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate, and the available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. It tends to crust and pack after heavy rains.

Included with this soil in mapping are small areas of Prentiss and Savannah soils on stream terraces. These soils are moderately well drained. Also included are some soils that are similar to the Cahaba soil but have a brownish subsoil. Also included are a few small areas of soils that are nonacid in the lower part of the subsoil, and a few small low-lying areas of soils that are subject to occasional flooding.

Most of the acreage of this Cahaba soil is used for row crops or pasture. The remaining acreage is in woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth, help control erosion, and reduce crusting and packing of the surface layer after heavy rains. In some places, proper arrangement of plant rows is needed to remove surface water.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, slash pine, yellow-poplar, cherrybark oak, sweetgum, and white oak. Plant competition is a moderate limitation for establishing pine trees.

The limitations of this soil for most urban uses and to use as septic tank absorption fields are slight. On site investigations are recommended before construction begins to identify the included soils in small low-lying areas that are subject to flooding.

This Cahaba soil is in capability class I and in woodland suitability group 2o7.

Cp—Catalpa silty clay, occasionally flooded. This deep, moderately well drained, nearly level soil is on flood plains. It formed in clayey alluvium. This soil is subject to brief periods of occasional flooding mostly in winter and early in the spring before crops are planted. The slope ranges from 0 to 2 percent.

Typically, the surface layer is very dark grayish brown silty clay to a depth of about 5 inches. The next layer is very dark grayish brown silty clay to a depth of about 20 inches. The upper part of the subsoil, to a depth of about 27 inches, is dark grayish brown silty clay that has brownish mottles. The lower part is silty clay mottled in shades of gray and brown to a depth of 65 inches or more.

This Catalpa soil ranges from slightly acid to moderately alkaline throughout. Permeability is slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 feet in wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Griffith and Leeper soils on flood plains. Griffith soils are moderately well drained, and Leeper soils are somewhat poorly drained. Also included are some small low areas of soils that are ponded for a short time during wet periods, and a few small areas of soils that have brownish overwash less than 10 inches thick. This overwash is coarser textured than the Catalpa soil.

Most of the acreage of this Catalpa soil is used as cropland. The remaining acreage mostly is in pasture or hay. A small acreage is still in hardwoods.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, surface field ditches and proper arrangement of plant

rows are needed to remove excess surface water. Returning of crop residue to the soil improves soil fertility and tilth and increases the water infiltration rate.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, weed and brush control, and restricted use during wet periods help keep the pasture and soil in good condition.

This soil is well suited to eastern cottonwood, green ash, yellow-poplar, hackberry, sweetgum, and American sycamore. Seedling mortality and plant competition are moderate concerns in woodland management. Wetness and flooding are moderate limitations to use of equipment on this soil. These limitations can be overcome by logging during drier periods.

Flooding, wetness, and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Flooding, wetness, and slow permeability severely limit the use of this soil as septic tank absorption fields.

This Catalpa soil is in capability subclass IIw and in woodland suitability group 1w5.

DeC2—Demopolis-Binnsville complex, 2 to 8 percent slopes, eroded. This map unit consists of shallow, well drained, gently sloping or sloping soils on uplands. These soils formed in thin beds of marly clay underlain by chalk. Demopolis and Binnsville soils are so intermingled that it was not practical to separate them at the scale used in mapping. Mapped areas range from 15 to 150 acres.

In most areas, part of the original surface layer of these soils has been removed by erosion, and the remaining topsoil and the underlying material have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. In a few places, the underlying material or underlying chalk has been exposed. Some areas of these soils have a few rills and shallow gullies that have exposed patches of chalk outcrop.

The Demopolis soil makes up about 41 percent of the map unit. Typically, the surface layer is dark grayish brown silty clay loam to a depth of about 5 inches. Below that is brown silty clay loam to a depth of about 9 inches. The underlying material, to a depth of about 14 inches, is light gray, platy fragments of chalk that have dark grayish brown silty clay loam between the plates. Below that to a depth of about 40 inches or more it is light gray, platy chalk that has splotches of pale yellow.

This Demopolis soil is mildly alkaline or moderately alkaline throughout. Permeability is moderately slow and the available water capacity is low. Runoff is medium or rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

Binnsville soil and soils that are similar make up about 30 percent of the map unit. Typically, the surface layer is very dark gray silty clay loam to a depth of about 5 inches. Below that, to a depth of about 9 inches, is very dark grayish brown silty clay. The underlying material is grayish brown silty clay and many light gray, platy fragments of chalk that have splotches of yellow to a depth of about 16 inches. Below that, light gray chalk in horizontal plates extends to a depth of about 40 inches or more.

This Binnsville soil is moderately alkaline throughout. Permeability is very slow, and the available water capacity is low. Runoff is medium or rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

Included in mapping are small areas of Brooksville, Okolona, and Catalpa soils. Brooksville soils are somewhat poorly drained. They are on uplands. Okolona soils are well drained. They are on uplands. Catalpa soils are moderately well drained. They are on narrow flood plains. These included soils make up about 29 percent of this map unit.

Most of the acreage in this map unit is used for pasture or hay crops. Some of the acreage has reverted to woodland that includes eastern redcedar and osageorange. The remaining acreage is in row crops.

Because of the hazard of erosion, low productivity, and droughtiness, the soils in this map unit are poorly suited to row crops and small grains and to hay and most pasture plants.

King Ranch bluestem, tall fescue, and common bermudagrass can be grown on the soils in this map unit and produce fair yields. Permanent vegetation of grasses and legumes should be maintained on these soils. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

These soils are poorly suited to commercial woodland because of low productivity. Eastern redcedar is an adapted species. Depth to bedrock and soil reaction are the main limitations to use as woodland.

These Demopolis and Binnsville soils have moderate limitations for urban use because of shallow depth to chalk. For dwellings with basements, these soils have severe limitations because of the depth to chalk. Low strength of Binnsville soil is a severe limitation for local roads and streets. Shallow depth to very slowly permeable chalk is a severe limitation to use of Demopolis and Binnsville soils as septic tank absorption fields.

The Demopolis and Binnsville soils are in capability subclass VIe and in woodland suitability group 4d3c.

FaA—Falkner silt loam, 0 to 2 percent slopes. This deep, somewhat poorly drained, nearly level soil is on broad upland flats. It formed in a mantle of silty material and in the underlying clayey marine deposits.

Typically, the surface layer is brown silt loam to a depth of about 5 inches. The upper part of the subsoil is yellowish brown silt loam mottled in shades of brown and gray to a depth of about 13 inches. The next layer,

to a depth of about 28 inches, is silty clay loam mottled in shades of gray, brown, and red. To a depth of about 45 inches, it is silty clay mottled in shades of gray, brown, and red. The lower part of the subsoil to a depth of 68 inches is gray silty clay that has brownish mottles, or it is mottled in shades of gray, brown, and red.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Falkner soil is very strongly acid or strongly acid in the surface layer and in the upper part of the subsoil except in areas where the surface layer has been limed. The lower part of the subsoil ranges from very strongly acid to slightly acid. Permeability is moderately slow in the upper part of the subsoil and slow in the lower part. The available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. It tends to crust and pack after heavy rains when no residue is left on the surface.

Included with this soil in mapping are small areas of Longview and Wilcox soils on uplands. These soils are somewhat poorly drained. Also included are a few small areas of soils that are underlain by clayey material that is extremely acid.

Most of the acreage of this Falkner soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, sweet potatoes, and small grains. If this soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth, help control erosion, and reduce crusting and packing of the surface layer. Proper arrangement of plant rows and surface field ditches are needed to remove excess surface water.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, shortleaf pine, cherrybark oak, and sweetgum. Plant competition and wetness are moderate limitations to use of equipment for establishing pine trees. Wetness can be partly overcome by harvesting during the drier periods.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability in the lower part of the clayey subsoil and wetness are severe limitations to use of this soil as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Falkner soil is in capability subclass IIw and in woodland suitability group 2w8.

FaB—Falkner silt loam, 2 to 5 percent slopes. This deep, somewhat poorly drained, gently sloping soil is on upland hillsides. It formed in a mantle of silty material and in the underlying clayey marine deposits.

Typically, the surface layer is brown silt loam to a depth of about 5 inches. The upper part of the subsoil is yellowish brown silty clay loam mottled in shades of brown and gray to a depth of about 10 inches. The next layer, to a depth of about 20 inches, is silty clay loam mottled in shades of gray, brown, and red. The lower part of the subsoil is silty clay mottled in shades of gray, brown, and red to a depth of about 64 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Falkner soil is very strongly acid or strongly acid in the surface layer and in the upper part of the subsoil except in areas where the surface layer has been limed. It ranges from very strongly acid to slightly acid in the lower part of the subsoil. Permeability is moderately slow in the upper part of the subsoil and slow in the lower part. The available water capacity is high. Runoff is medium. Erosion is a moderate hazard. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. It tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Longview and Wilcox soils on uplands. These soils are somewhat poorly drained. Also included are a few small areas of soils that are underlain by clayey material that is extremely acid.

Most of the acreage of this Falkner soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, sweet potatoes, and small grains. If this soil is used for cultivated crops, good management practices, such as crop rotation, conservation tillage, returning of crop residue to the soil, contour farming, grassed waterways, and terraces, should be used to help control erosion, reduce runoff, and improve soil tilth.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, shortleaf pine, cherrybark oak, and sweetgum. Plant competition is a moderate limitation. Wetness is a moderate limitation to

use of equipment on this soil. The wetness limitation can be partly overcome by harvesting during drier periods.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability in the lower part of the clayey subsoil and wetness are severe limitations to use of this soil as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Falkner soil is in capability subclass IIIe and in woodland suitability group 2w8.

FK—Falkner silt loam, level. This deep, somewhat poorly drained, level soil is mainly on broad, wooded flats on uplands. It formed in a mantle of silty material and in the underlying clayey marine deposits. Mapped areas range from 160 to 2,000 acres. The composition of the mapped areas vary, but mapping has been controlled well enough for the expected uses of this soil. The slope ranges from 0 to 2 percent.

The Falkner soil and soils that are similar make up about 86 percent of the map unit. Typically, the surface layer is brown silt loam to a depth of about 6 inches. The upper part of the subsoil is yellowish brown silt loam to a depth of 10 inches. The next layer is yellowish brown silt loam that has grayish mottles to a depth of about 16 inches. The next layer, to a depth of about 21 inches, is silty clay loam mottled in shades of brown, red, and gray. Below that, to a depth of about 39 inches, is light brownish gray silty clay mottled in shades of brown and red. The lower part of the subsoil is silty clay mottled in shades of gray and brown to a depth of about 62 inches.

This Falkner soil is very strongly acid or strongly acid in the surface layer and in the upper part of the subsoil. It ranges from very strongly acid to slightly acid in the lower part of the subsoil. Permeability is moderately slow in the upper part of the subsoil and slow in the lower part. The available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. It tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Wilcox and Longview soils. Wilcox soils are somewhat poorly drained. These soils are on nearly level ridges and gently sloping hillsides. Longview soils are somewhat poorly drained and are on similar landscapes as the Falkner soil. Also included are a few small areas of soils that are underlain by clayey material that is extremely acid.

Most of the acreage of this map unit is used as woodland.

This soil is well suited to cotton, corn, soybeans, sweet potatoes, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth, help control erosion, and reduce crusting and packing of the surface layer. Proper arrangement of plant rows and surface field ditches are needed to remove excess surface water.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, shortleaf pine, cherrybark oak, and sweetgum. Plant competition and wetness are moderate limitations to use of equipment for establishing pine trees. The wetness limitation can be partly overcome by harvesting during the drier periods.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability in the lower part of the clayey subsoil and wetness are severe limitations to use of this soil as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Falkner soil is in capability subclass IIw and in woodland suitability group 2w8.

FrA—Freest fine sandy loam, 0 to 2 percent slopes. This deep, moderately well drained, nearly level soil is on upland flats and stream terraces. It formed in loamy sediment and in the underlying clayey sediment.

Typically, the surface layer is brown sandy loam to a depth of about 6 inches. The upper part of the subsoil is yellowish brown loam that has brownish mottles to a depth of about 12 inches. The next layer, to a depth of about 18 inches, is loam mottled in shades of brown, gray, and red. The next layer, to a depth of about 28 inches, is clay loam mottled in shades of gray, brown, and red. Below that, to a depth of about 48 inches, is clay loam mottled in shades of gray and brown. The lower part of the subsoil is clay loam mottled in shades of gray, brown, and red to a depth of about 70 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Freest soil is very strongly acid or strongly acid in the surface layer. It ranges from very strongly acid to medium acid in the upper part of the subsoil and ranges from very strongly acid to neutral in the lower part. Permeability is slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 1/2

feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. It tends to crust and pack after heavy rains.

Included with this soil in mapping are small areas of Kipling, Quitman, and Stough soils. Kipling soils are somewhat poorly drained. These soils are on uplands. Quitman soils are moderately well drained. They are on stream terraces. Stough soils are somewhat poorly drained, and they are on uplands and stream terraces. Also included are soils in some small low areas that are subject to occasional flooding in winter and early in the spring.

Most of the acreage of this Freest soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth, help control erosion, and reduce crusting and packing of the surface layer. In some places, proper arrangement of plant rows and surface field ditches are needed to remove surface water.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, shortleaf pine, and cherrybark oak. Plant competition and seasonal wetness are moderate limitations to use of equipment for establishing pine trees. The seasonal wetness limitation can be partly overcome by harvesting during drier periods.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability in the clayey lower part of the subsoil and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Freest soil is in capability subclass IIw and in woodland suitability group 2w8.

FrB—Freest fine sandy loam, 2 to 5 percent slopes. This deep, moderately well drained, gently sloping soil is on ridgetops and hillsides on uplands and stream terraces. It formed in loamy sediment and in the underlying clayey material.

Typically, the surface layer is brown fine sandy loam to a depth of about 6 inches. The upper part of the subsoil is yellowish brown sandy clay loam to a depth of about 19 inches. The next layer, to a depth of about 27 inches, is clay loam mottled in shades of brown, gray, and red. Below that, to a depth of about 55 inches, is silty clay mottled in shades of brown, gray, and red. The lower part of the subsoil is silty clay mottled in shades of brown and gray to a depth of about 75 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Freest soil ranges from very strongly acid to medium acid in the surface layer. It is very strongly acid to medium acid in the upper part and the middle part of the subsoil and ranges from strongly acid to neutral in the lower part. Permeability is slow, and the available water capacity is high. Runoff is medium or slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains.

Included with this soil in mapping are small areas of Kipling and Quitman soils on uplands. Kipling soils are somewhat poorly drained, and Quitman soils are moderately well drained.

Most of the acreage of this Freest soil is used for row crops or pasture. A small acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as returning crop residue to the soil, conservation tillage, contour farming, grassed waterways, terraces, and crop rotation, can be used to reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to loblolly pine, shortleaf pine, and cherrybark oak. Plant competition and seasonal wetness are moderate limitations to use of equipment for establishing pine trees. The seasonal wetness limitation can be partly overcome by harvesting during drier periods.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability in the clayey lower part of the subsoil is a severe limitation to use of this soil as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Freest soil is in capability subclass IIe and in woodland suitability group 2w8.

Gr—Griffith silty clay, occasionally flooded. This deep, moderately well drained, nearly level soil is on flood plains. It formed in clayey alluvium. This soil is subject to brief periods of occasional flooding in the

winter and early in the spring before the growing season. The slope ranges from 0 to 2 percent.

Typically, the surface layer is very dark grayish brown silty clay to a depth of about 6 inches. The next layer, to a depth of about 18 inches, is black silty clay. The next layer, to a depth of about 28 inches, is very dark grayish brown clay. Below that, to a depth of about 42 inches, it is gray clay that has olive mottles. The next layer is dark grayish brown clay mottled in shades of brown to a depth of 70 inches or more.

This Griffith soil ranges from neutral to moderately alkaline throughout. Permeability is very slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet in wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are a few small areas of Catalpa and Leeper soils on flood plains. Catalpa soils are moderately well drained. Leeper soils are somewhat poorly drained. Also included are soils that are calcareous throughout. These soils also are on flood plains. Also included in mapping are a few low-lying areas of soils that are flooded for longer periods.

Most of the acreage of this Griffith soil is used for row crops or pasture. A small acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, proper arrangement of plant rows and surface field ditches are needed to remove excess surface water from low-lying areas. Returning crop residue to the soil improves soil tilth and fertility and increases the water infiltration rate.

This soil is well suited to pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to eastern cottonwood, green ash, yellow-poplar, hackberry, sweetgum, and American sycamore. Seedling mortality, plant competition, seasonal wetness, and flooding are moderate limitations to use as woodland. Logging during drier periods helps to overcome limitations to use of equipment on this soil.

Flooding, wetness, and the high shrink-swell potential of this soil are severe limitations for urban use and to use as septic tank absorption fields. Low strength is a severe limitation for local roads and streets.

This Griffith soil is in capability subclass IIw and in woodland suitability group 1w6.

Je—Jena fine sandy loam, occasionally flooded. This deep, well drained, nearly level soil is on flood plains. It formed in loamy alluvium. This soil is subject to brief periods of occasional flooding in the winter and early in the spring before the growing season. The slope ranges from 0 to 2 percent.

Typically, the surface layer is a dark brown fine sandy loam to a depth of about 7 inches. The upper part of the subsoil is brown fine sandy loam to a depth of about 18 inches. The lower part, to a depth of about 41 inches, is strong brown fine sandy loam that has brownish mottles. The underlying material is yellowish brown loamy fine sand to a depth of about 70 inches or more.

This Jena soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Mooreville and Ochlockonee soils on flood plains. Mooreville soils are moderately well drained. Ochlockonee soils are well drained.

Most of the acreage of this Jena soil is used for row crops or pasture. A small acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. With good management, row crops can be grown every year. If the soil is used for cultivated crops, returning the crop residue to the soil and conservation tillage will help improve soil fertility and tilth and reduce erosion. Conservation tillage, proper arrangement of plant rows and surface field ditches are needed to remove surface water.

This soil is well suited to grasses and legumes for pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to loblolly pine, sweetgum, slash pine, southern red oak, water oak, white oak, American sycamore, and eastern cottonwood. Woodland management limitations are slight, but plant competition is a moderate limitation.

Flooding of this soil is a severe limitation for most urban uses. It also is a severe limitation to use as septic tank absorption fields.

This Jena soil is in capability subclass IIw and in woodland suitability group 1o7.

KpA—Kipling silt loam, 0 to 2 percent slopes. This deep, somewhat poorly drained, nearly level soil is on broad upland flats. It formed in an acid, clayey material underlain by chalk.

Typically, the surface layer is very dark grayish brown silt loam to a depth of about 5 inches. The upper part of the subsoil is clay mottled in shades of brown, red, and gray to a depth of about 36 inches. The lower part is clay mottled in shades of brown and gray to a depth of about 45 inches. The underlying material is clay mottled in shades of brown to a depth of 52 inches. Below that

is light gray, firm chalk that has brownish mottles to a depth of about 60 inches or more.

This Kipling soil ranges from very strongly acid to medium acid in the surface layer and in the subsoil and ranges from strongly acid to moderately alkaline in the underlying material. Permeability is slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet in wet periods. The surface layer is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Brooksville and Vaiden soils on uplands. These soils are somewhat poorly drained. Also included are small areas of soils that have a surface layer that has been thinned by erosion.

Most of the acreage of this Kipling soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth and reduce erosion. Proper arrangement of plant rows and surface field ditches are needed to remove excess surface water.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, cherrybark oak, Shumard oak, water oak, white oak, and sweetgum. Plant competition and seedling mortality are moderate limitations for establishing pine trees. Wetness is a moderate limitation to use of equipment. This limitation can be partly overcome by logging during drier periods.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability in the lower part of the clayey subsoil and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Kipling soil is in capability subclass IIIw and in woodland suitability group 2c8.

KpB2—Kipling silt loam, 2 to 5 percent slopes, eroded. This deep, somewhat poorly drained, gently sloping soil is on broad ridges and hillsides on uplands. It formed in acid, clayey material underlain by chalk.

Typically, the surface layer is dark yellowish brown silt loam to a depth of about 4 inches. The upper part of the subsoil is yellowish brown silty clay loam that has a few brownish and grayish mottles to a depth of about 9 inches. The middle part, to a depth of about 28 inches, is silty clay mottled in shades of brown, gray, and red. The lower part is clay mottled in shades of brown and gray to a depth of about 45 inches. The underlying material is clay mottled in shades of brown and gray to a depth of 61 inches. This is underlain by firm chalk to a depth of about 70 inches or more.

In most areas, part of the original surface layer of this soil has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas of this soil have a few rills and shallow gullies.

This soil ranges from very strongly acid to medium acid in the surface layer and in the subsoil and ranges from strongly acid to moderately alkaline in the underlying material. Permeability is slow, and the available water capacity is high. Runoff is medium. Erosion is a moderate hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet in wet periods. The surface layer is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Brooksville, Demopolis, and Vaiden soils on uplands. The Brooksville and Vaiden soils are somewhat poorly drained. The Demopolis soils are well drained. Also included are some small areas of soils that have a silty clay loam surface layer and some small areas of soils on which little or no erosion has occurred.

Most of the acreage of this Kipling soil is used for pasture or row crops. A small acreage is used as woodland.

This soil is moderately suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, terraces, grassed waterways, returning crop residue to the soil, crop rotation that includes grasses and legumes, contour farming, and contour stripcropping, will reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Overgrazing can increase the hazard of erosion and increase runoff of surface water. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to cherrybark oak, loblolly pine, Shumard oak, water oak, white oak, and sweetgum. Plant competition and seedling mortality are moderate limitations for establishing pine trees. Wetness is a moderate limitation for use of equipment. This limitation can be partly overcome by logging during the drier periods.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability in the lower part of the subsoil is a severe limitation to use of this soil as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields and removing surface water.

This Kipling soil is in capability subclass IIIe and in woodland suitability group 2c8.

KpC2—Kipling silt loam, 5 to 8 percent slopes, eroded. This deep, somewhat poorly drained, sloping soil is on hillsides and narrow ridges on uplands. It formed in an acid, clayey material underlain by chalk.

Typically, the surface layer is brown silt loam to a depth of about 4 inches. The upper part of the subsoil is yellowish red clay that has brownish and grayish mottles to a depth of about 9 inches. The middle part, to a depth of about l4 inches, is clay mottled in shades of brown, gray, and red. The lower part of the subsoil is clay mottled in shades of brown and gray to a depth of about 40 inches. This is underlain by firm chalk to a depth of 47 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas of this soil have a few rills and shallow gullies.

This Kipling soil ranges from very strongly acid to medium acid in the surface layer and in the subsoil and ranges from strongly acid to moderately alkaline in the underlying material. Permeability is slow, and the available water capacity is high. Runoff is rapid. Erosion is a severe hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet in wet periods. The surface layer is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Demopolis, Sumter, and Vaiden soils on uplands. Demopolis and Sumter soils are well drained, and Vaiden soils are somewhat poorly drained. Also included are small areas of soils on which little or no erosion has occurred, and some small areas of soils that have a silty clay loam surface layer.

Most of the acreage of this Kipling soil is used for pasture or row crops. A small acreage is used as woodland.

This soil is poorly suited to cultivated crops because of the erosion hazard. If the soil is used for cultivated crops, good management practices, such as conservation tillage, terraces, grassed waterways, crop rotation that includes grasses and legumes, contour farming, and contour stripcropping, will reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to cherrybark oak, loblolly pine, Shumard oak, water oak, white oak, and sweetgum. Plant competition and seedling mortality are moderate limitations for establishing pine trees. Wetness is a moderate limitation to use of equipment. This limitation can be partly overcome by logging during the drier periods.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability in the lower part of the clayey subsoil is a severe limitation to use of this soil as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Kipling soil is in capability subclass IVe and in woodland suitability group 2c8.

KpD2—Kipling silt loam, 8 to 12 percent slopes, eroded. This deep, somewhat poorly drained, strongly sloping soil is on upland hillsides. It formed in an acid, clayey material underlain by chalk.

Typically, the surface layer is dark yellowish brown silt loam that contains yellowish red particles of the subsoil to a depth of about 2 inches. The upper part of the subsoil is yellowish red silty clay loam that has mottles in shades of gray and red to a depth of about 7 inches. The middle part, to a depth of about 22 inches, is silty clay mottled in shades of brown, gray, and red. The lower part of the subsoil is silty clay mottled in shades of gray and red to a depth of about 40 inches. The silty clay material in this layer has brownish mottles below a depth of 32 inches. The underlying material, to a depth of about 47 inches, is silty clay mottled in shades of brown, gray, and red that has intersecting slickensides in the lower part of this layer. Below that is firm, partially weathered chalk to a depth of 60 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas of this soil have a few rills and shallow gullies.

This soil ranges from very strongly acid to medium acid in the surface layer and in the subsoil, and it is strongly acid to moderately alkaline in the underlying material. Permeability is slow, and the available water capacity is high. Runoff is rapid. Erosion is a severe hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet in wet periods.

Included with this soil in mapping are small areas of Oktibbeha, Sumter, and Vaiden soils on uplands. The Oktibbeha soils are moderately well drained. The Sumter soils are well drained. The Vaiden soils are somewhat poorly drained. Also included are small areas of soils on which little or no erosion has occurred.

Most of the acreage of this Kipling soil is used for pasture. A small acreage is used as woodland.

This soil is poorly suited to cultivated crops because of steepness of slope, rapid runoff, and the severe erosion hazard. Permanent vegetation of grasses and legumes or pine trees should be maintained on this soil.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control reduce erosion and help keep the pasture and soil in good condition.

This soil is well suited to cherrybark oak, loblolly pine, Shumard oak, water oak, white oak, and sweetgum. Plant competition and seedling mortality are moderate limitations for establishing pine trees. Wetness is a moderate limitation to use of equipment. This limitation can be partly overcome by logging during drier periods.

Wetness, steepness of slope, and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. Steepness of slope and slow permeability of the clayey subsoil are severe limitations to use as septic tank absorption fields. These limitations can be partly overcome by special design and proper installation.

This Kipling soil is in capability subclass VIe and in woodland suitability group 2c8.

La—Latonia fine sandy loam, occasionally flooded. This deep, well drained, nearly level soil is on stream terraces. It formed in loamy sediment and in the underlying sandy sediment. This soil is subject to brief periods of occasional flooding in the winter and early in the spring. The slope ranges from 0 to 3 percent.

Typically, the surface layer is dark brown fine sandy loam to a depth of about 7 inches. The upper part of the subsoil is dark yellowish brown sandy loam to a depth of about 16 inches. To a depth of about 38 inches, the subsoil is yellowish brown sandy loam. This sandy loam material has brownish mottles in the lower part of this layer. The underlying material is brownish yellow loamy sand that has brownish mottles to a depth of about 56 inches. Below that, it is light yellowish brown sand to a depth of about 75 inches of more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Latonia soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderately rapid, and the available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Cahaba soils on stream terraces. These soils are well drained. Also included is a soil that is similar to the Latonia soil but has a sandier subsoil. Small areas of soils that have slope of 0 to about 5 percent are also included.

Most of the acreage of this Latonia soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, moisture stress can affect the crops during long dry periods because this soil is slightly droughty. Conservation tillage and returning crop residue to the soil help maintain soil tilth and control erosion.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Limitations to woodland management are slight.

Flooding of this soil is a severe limitation for most urban uses. Flooding and the poor filtering capacity of this soil are severe limitations to use as septic tank absorption fields.

This Latonia soil is in capability subclass IIs and in woodland suitability group 2o1.

LC—Latonia-Cahaba association, occasionally flooded. This map unit consists of deep, well drained, nearly level soils on stream terraces on the first bench above the bottom lands. The landscape is broad, wooded flats that have a few depressions and a few intermittent stream channels. These soils formed in loamy material or loamy sediment and in sandy material. The Latonia and Cahaba soils are subject to brief periods of occasional flooding in the winter and early in the spring before the growing season. The soils in this map unit are in a regular and repeating pattern. Individual areas are large enough to be mapped separately, but because these soils are dominantly wooded and are expected to remain so, they were mapped as an association. Latonia soil generally is in the higher areas on the broad flats, and Cahaba soil is in the lower areas adjacent to the depressions. Mapped areas range from 60 to about 400 acres. The slope ranges from 0 to 2 percent.

The Latonia soil and soils that are similiar make up about 50 percent of the map unit. Typically, the surface layer is dark grayish brown fine sandy loam to a depth of about 6 inches. The subsoil is dark yellowish brown or

yellowish brown sandy loam to a depth of about 35 inches. Below that, the underlying material is light yellowish brown loamy sand to a depth of about 51 inches, and it is very pale brown sand to a depth of about 75 inches or more.

This Latonia soil is very strongly acid or strongly acid throughout. Permeability is moderately rapid, and the available water capacity is moderate to low. Runoff is slow. Erosion is a slight hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. It tends to crust and pack after heavy rains if no residue is left on the surface.

The Cahaba soil and soils that are similar make up about 26 percent of the map unit. Typically, the surface layer is dark brown fine sandy loam to a depth of about 4 inches. The subsurface layer is yellowish brown sandy loam to a depth of about 10 inches. The subsoil is yellowish red sandy clay loam or loam to a depth of about 45 inches or more. The underlying material is strong brown loamy sand to a depth of about 80 inches.

This Cahaba soil is very strongly acid or strongly acid throughout. Permeability is moderate, and the available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included in mapping are small areas of soils on broad flats and in slight depressions on stream terraces. These soils are similar to Cahaba soil, but they have a browner subsoil. Also included are small areas of soils that are moderately well drained and that have a reddish subsoil, and small areas of soils that are poorly drained and somewhat poorly drained. These soils are in depressions and drainageways. The included soils make up 24 percent of this map unit.

Most of the acreage in this map unit is used as woodland. Many of the high, broad flats are in pine trees, and the lower areas are in hardwoods.

These soils are well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth, help control erosion, and reduce crusting and packing of the surface layer after heavy rainfall. In places, proper arrangement of plant rows may be needed to remove surface water.

These soils are well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

The Latonia soil is well suited to slash pine and loblolly pine. Limitations to woodland management are slight. The Cahaba soil is well suited to loblolly pine, slash pine, yellow-poplar, sweetgum, white oak, and cherrybark oak. Woodland management limitations are slight, but plant competition is a moderate limitation to use as woodland.

Flooding of these soils is a severe limitation for most urban uses. Flooding also severely limits the use of these soils as septic tank absorption fields.

This Latonia soil is in capability subclass IIs and in woodland suitability group 2o1. The Cahaba soil is in capability subclass IIw and in woodland suitability group 2o7.

Le—Leeper silty clay, occasionally flooded. This deep, somewhat poorly drained, nearly level soil is on broad flood plains. It formed in clayey alluvium. This soil is subject to brief periods of occasional flooding during the winter and early in the spring before the growing season. The slope ranges from 0 to 2 percent.

Typically, the surface layer is dark grayish brown silty clay that has brownish mottles to a depth of about 5 inches. The subsoil, to a depth of about 17 inches, is dark grayish brown silty clay. To a depth of about 42 inches, it is grayish brown silty clay that has brownish mottles. The underlying material is light brownish gray clay that has brownish mottles to a depth of 67 inches.

This Leeper soil ranges from medium acid to moderately alkaline throughout. Permeability is very slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 2 feet in wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Catalpa, Griffith, and Marietta soils on flood plains. These soils are moderately well drained. Also included are small areas of low-lying soils that can be flooded for several days during wet periods, and some small areas of soils that are near stream channels that have sandy overwash that is less than 10 inches thick.

Most of the acreage of this Leeper soil is used as cropland or for pasture or hay. A small acreage is still in hardwoods.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, crop residue should be returned to the soil to improve tilth and fertility. Proper arrangement of plant rows and surface field ditches may be needed to remove excess surface water.

This soil is well suited to pasture or hay (fig. 2). Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to eastern cottonwood, sweetgum, green ash, and American sycamore. Seedling mortality is a severe limitation to woodland use. Seasonal wetness and flooding are severe limitations to

Figure 2.—Excess grass for grazing was cut for hay on Leeper silty clay, occasionally flooded.

use of equipment in woodland management. Logging during drier periods can help to overcome some of these limitations.

Flooding, seasonal wetness, and the high shrink-swell potential of the very slowly permeable subsoil of this soil are severe limitations for urban use and to use as septic tank absorption fields.

This Leeper soil is in capability subclass IIw and in woodland suitability group 1w6.

LL—Leeper-Catalpa association, frequently flooded. This map unit consists of deep, somewhat poorly drained and moderately well drained, nearly level soils on flood plains. These soils formed in clayey alluvium. The landscape is broad, wooded flood plains that are about 1/8 to 1/2 mile wide. There are some sloughs and depressions. These Leeper-Catalpa soils are subject to brief periods of frequent flooding each year, mostly in the winter and early in the spring during the early part of the growing season. Some of the sloughs and depressions are flooded for longer periods. The soils in this map unit are in a regular and repeating pattern. Individual areas of these soils are large enough to be mapped separately, but because these soils are dominantly wooded and are expected to remain so, they were mapped as an association. Leeper soil generally is in broad, flat areas away from the main streams. Catalpa soil generally is near stream channels. Mapped areas range from 80 to about 300 acres. The slope ranges from 0 to 2 percent.

The somewhat poorly drained Leeper soil and soils that are similar make up about 76 percent of the map unit. Typically, the surface layer is very dark grayish

brown silty clay to a depth of about 3 inches. It is underlain by dark grayish brown silty clay to a depth of 13 inches. The subsoil is grayish brown silty clay mottled in shades of yellowish brown to a depth of 30 inches. The next layer, to a depth of about 43 inches, is gray silty clay mottled in shades of brown. Below that to a depth of about 60 inches or more is silty clay mottled in shades of gray and brown.

Leeper soil ranges from medium acid to moderately alkaline throughout. Permeability is very slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 2 feet in wet periods.

The moderately well drained Catalpa soil and soils that are similar make up about 16 percent of the map unit. Typically, the surface layer is very dark grayish brown silty clay to a depth of 4 inches. The subsurface layer is very dark grayish brown silty clay to a depth of 10 inches. Below that, to a depth of 21 inches, is very dark grayish brown silty clay mottled in shades of brown. The subsoil is silty clay mottled in shades of brown and gray to a depth of 33 inches. To a depth of 60 inches or more it is silty clay mottled in shades of brown and gray.

Catalpa soil ranges from slightly acid to moderately alkaline throughout. Permeability is slow, and the available water capacity is high. This soil shrinks and cracks during dry periods. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 feet in wet periods.

Included in mapping are small areas of Urbo, Griffith, Quitman, and Vaiden soils. Urbo soils are somewhat poorly drained and are on flood plains. Griffith soils are moderately well drained and are on flood plains. Quitman soils are moderately well drained. They are on stream terraces. Vaiden soils are somewhat poorly drained, and they are on uplands. The included soils make up about 8 percent of the map unit.

Most of the acreage of this map unit is in hardwood forests.

These soils are poorly suited to row crops and small grains because of frequent flooding.

These soils are well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition. In some areas, livestock has to be moved to a higher elevation when flooding is imminent.

Leeper soil is well suited to eastern cottonwood, sweetgum, green ash, and American sycamore. Seedling mortality is a severe limitation. Wetness and flooding severely limit the use of equipment on this soil. These limitations are the main concerns in woodland management. Logging during the drier periods helps to overcome these limitations. Catalpa soil is well suited to eastern cottonwood, yellow-poplar, hackberry, green ash, sweetgum, and American sycamore. Seedling mortality and plant competition are moderate limitations. Wetness and flooding are moderate limitations to use of equipment on Catalpa soil. Logging during the drier periods helps to overcome these limitations.

The shrink-swell potential of the soils in this map unit and flooding and seasonal wetness are severe limitations for urban use and as septic tank absorption fields. Low strength is a severe limitation for local roads and streets.

The Leeper and Catalpa soils are in capability subclass IVw. Leeper soil is in woodland suitability group 1w5, and Catalpa soil is in woodland suitability group 1w6.

LoA—Longview silt loam, 0 to 2 percent slopes. This deep, somewhat poorly drained, nearly level soil is on broad upland flats. It formed in silty material.

Typically, the surface layer is brown silt loam to a depth of about 4 inches. The upper part of the subsoil is yellowish brown silt loam that has grayish mottles to a depth of about 18 inches. The middle part, to a depth of about 56 inches, is silt loam mottled in shades of brown and gray. The lower part of the subsoil is silty clay loam mottled in shades of gray and brown to a depth of about 70 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Longview soil ranges from extremely acid to strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderately slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 3 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Falkner soils on uplands. These soils are somewhat poorly drained. Also included are some small areas of silty soils on uplands. These soils are poorly drained.

Most of the acreage of this Longview soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve tilth, help control erosion, and reduce crusting and packing of the surface layer after heavy rains. In places, proper arrangement of plant rows and surface field ditches are needed to remove surface water.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, cherrybark oak, water oak, Shumard oak, sweetgum, and yellow-poplar. Plant competition is a moderate limitation. Wetness is a moderate limitation to use of equipment on this soil, but this limitation can be partly overcome by harvesting during the drier periods.

Wetness is a severe limitation of this soil for most urban uses. Low strength is a severe limitation for local roads and streets. The moderately slow permeability of the subsoil and wetness are also severe limitations to use as septic tank absorption fields. These limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Longview soil is in capability subclass IIw and in woodland suitability group 2w8.

LR—Longview-Falkner association, undulating. This map unit consists of deep, somewhat poorly drained soils on broad, nearly level flats and on some gently sloping hillsides on uplands. These soils formed in silty material and in silty material underlain by clayey marine deposits. These soils are in a regular and repeating pattern, but they are in similar positions on the landscape. Individual areas of these soils are large enough to map separately, but because of similar present and expected uses, they were mapped as an association. Mapped areas are mainly wooded, and they range from 100 to about 400 acres. The slope ranges from 0 to 5 percent.

The Longview soil and soils that are similar make up about 63 percent of the map unit. Typically, the surface layer is dark brown silt loam to a depth of about 4 inches and is underlain by light yellowish brown silt loam to a depth of about 6 inches. The upper part of the subsoil is brownish yellow silt loam that has pale brown mottles to a depth of 12 inches. The middle part, to a depth of about 37 inches, is yellowish brown silt loam that has grayish mottles, or it is mottled in shades of gray and brown. The lower part of the subsoil is silty clay loam mottled in shades of gray and brown to a depth of 65 inches or more.

This Longview soil is extremely acid to strongly acid throughout. Permeability is moderately slow, and the available water capacity is high. Runoff is slow. Erosion is a moderate hazard. The seasonal high water table is at a depth of 1 foot to 3 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

The Falkner soil and soils that are similar make up about 31 percent of the map unit. Typically, the surface layer is dark brown silt loam to a depth of about 4 inches. The upper part of the subsoil is yellowish brown silty clay loam to a depth of 13 inches. The middle part, to a depth of about 20 inches, is silty clay loam mottled in shades of brown, gray, and red. The lower part of the subsoil is silty clay mottled in shades of gray, brown, and red, or it is mottled gray and brown silty clay to a depth of 60 inches or more.

This Falkner soil is very strongly acid or strongly acid throughout. Permeability is moderately slow in the upper part of the subsoil and slow in the lower part. The available water capacity is high. Runoff is slow. Erosion is a moderate hazard. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included in mapping are small areas of Savannah, Mantachie, and Urbo soils. The Savannah soils are moderately well drained. These soils are on uplands. The Mantachie and Urbo soils are somewhat poorly drained. These soils are on narrow flood plains. Also included are some small areas of soils that are similar to Longview soil but that are moderately well drained. They are on uplands. These included soils make up about 6 percent of the map unit.

Most of the acreage in this map unit is used as woodland.

Longview soil is well suited to cotton, corn, soybeans, and small grains. Falkner soil is moderately suited to these uses. If the soils are used for cultivated crops, good management practices, such as conservation tillage, terraces, grassed waterways, and returning crop residue to the soil, are needed. In addition, crop rotation, contour tillage, and contour stripcropping are recommended practices to reduce runoff and to help control erosion on the more sloping areas.

Longview and Falkner soils are well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

Longview soil is well suited to loblolly pine, water oak, Shumard oak, cherrybark oak, yellow-poplar, and sweetgum. Plant competition is a moderate limitation. Wetness is a moderate limitation to use of equipment on this soil in woodland management, but this limitation can be partly overcome by harvesting during the drier periods. The Falkner soil is well suited to loblolly pine, shortleaf pine, cherrybark oak, and sweetgum. Plant competition is a moderate limitation. Wetness is a moderate limitation to use of equipment, but this limitation can be partly overcome by harvesting during drier periods.

Wetness is a severe limitation of the Longview soil for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The moderately slow permeability of the subsoil and wetness are severe limitations to use of these soils as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

Wetness and the shrink-swell potential of the subsoil of the Falkner soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. Wetness and the slow permeability of the subsoil are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Longview soil is in capability subclass IIe, and the Falkner soil is in capability subclass IIIe. Longview and Falkner soils are in woodland suitability group 2w8.

LuA—Lucedale fine sandy loam, 0 to 2 percent slopes. This deep, well drained, nearly level soil is on upland flats. It formed in loamy material.

Typically, the surface layer is dark brown fine sandy loam to a depth of about 7 inches. The upper part of the subsoil is dark red clay loam or sandy clay loam to a depth of about 47 inches. The lower part is red sandy clay loam or loam to a depth of about 78 inches.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Lucedale soil ranges from strongly acid to slightly acid in the surface layer except in areas where the surface layer has been limed, and it is very strongly acid or strongly acid in the subsoil. Permeability is moderate, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains.

Included with this soil in mapping are small areas of Ruston and Smithdale soils on uplands. These soils are well drained.

Most of the acreage of this Lucedale soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve tilth, help control erosion, and reduce crusting and packing of the surface layer after heavy rains. In places, proper arrangement of plant rows may be needed to remove surface water.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine. Limitations to woodland management are slight.

The limitations of this soil for urban use are slight. The soil also has slight limitations to use as septic tank absorption fields.

This Lucedale soil is in capability class I and in woodland suitability group 2o1.

Ma—Mantachie loam, occasionally flooded. This deep, somewhat poorly drained, nearly level soil is on flood plains. It formed in loamy alluvium. This soil is subject to brief periods of occasional flooding during the winter and early in the spring before the growing season. The slope ranges from 0 to 2 percent.

Typically the surface layer is dark grayish brown loam to a depth of about 6 inches. The upper part of the subsoil is brown loam that has grayish mottles to a depth of about 14 inches. The middle part, to a depth of about 19 inches, is loam mottled in shades of brown and gray. The lower part of the subsoil is light brownish gray clay loam mottled in shades of brown to a depth of 60 inches or more.

This Mantachie soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 1 1/2 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Jena, Mooreville, and Urbo soils on flood plains. Jena soils are well drained. Mooreville soils are moderately well drained. Urbo soils are somewhat poorly drained. Also included are soils in a few small low-lying areas that are ponded for several days after periods of wetness.

Most of the acreage of this Mantachie soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, proper arrangement of plant rows and surface field ditches are needed to remove excess surface water. Conservation tillage and returning crop residue to the soil improve soil tilth and help control erosion.

This soil is well suited to grasses and legumes for pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to loblolly pine, cherrybark oak, sweetgum, yellow-poplar, green ash, and eastern cottonwood. Seasonal wetness and flooding are severe limitations to use of equipment on this soil. Logging during drier periods can partly overcome these limitations. Plant competition is a severe limitation to use as woodland.

Flooding and seasonal wetness are severe limitations for urban use. These limitations are also severe for use as septic tank absorption fields.

This Mantachie soil is in capability subclass IIw and in woodland suitability group 1w9.

Me—Marietta loam, occasionally flooded. This deep, moderately well drained, nearly level soil is on flood plains. It formed in loamy alluvium. This soil is subject to brief periods of occasional flooding during the winter and early in the spring before the growing season. The slope ranges from 0 to 2 percent.

Typically, the surface layer is dark brown loam to a depth of about 9 inches. The upper part of the subsoil is dark yellowish brown loam that has grayish mottles to a depth of about 20 inches. The middle part is clay loam mottled in shades of brown to a depth of about 38 inches. The lower part of the subsoil is gray silty clay loam mottled in shades of brown to a depth of 60 inches or more.

This Marietta soil ranges from medium acid to mildly alkaline throughout. Permeability is moderate, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Catalpa and Leeper soils on flood plains. Catalpa soils are moderately well drained. Leeper soils are somewhat poorly drained. Also included are small areas of soils that have clayey material within a depth of 18 inches. These soils are on flood plains.

Most of the acreage of this soil is used as pasture or for crops. The remaining acreage is in woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as proper plant row arrangement and returning crop residue to the soil, are needed. Surface field ditches are needed to remove excess surface water.

This soil is well suited to grasses and legumes for hay or pasture. Good pasture management practices include proper stocking, controlled grazing, and brush and weed control.

This soil is well suited to eastern cottonwood, green ash, sweetgum, American sycamore, and yellow-poplar. Because of wetness and flooding, seedling mortality is a moderate limitation. Also, wetness and flooding are moderate limitations to use of equipment on this soil, but these limitations can be partly overcome by harvesting during the drier periods.

Flooding and wetness are severe limitations for most urban uses. These limitations also severely limit the use of this soil as septic tank absorption fields.

This Marietta soil is in capability subclass IIw and in woodland suitability group 1w5.

Mo—Mooreville loam, occasionally flooded. This deep, moderately well drained, nearly level soil is on flood plains. It formed in loamy alluvium. This soil is subject to brief periods of occasional flooding each year, mostly in the winter and early in the spring before the growing season. The slope ranges from 0 to 2 percent.

Typically, the surface layer is brown loam to a depth of about 7 inches. The upper part of the subsoil is dark yellowish brown loam to a depth of about 16 inches. The next layer is dark yellowish brown loam that has mottles in shades of gray and brown to a depth of 25 inches. The lower part of the subsoil is loam mottled in shades of brown and gray to a depth of about 49 inches. The underlying material is light brownish gray loam mottled in shades of brown to a depth of 70 inches or more.

This Mooreville soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet in wet periods. The surface layer is friable and is easily tilled within a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Jena and Mantachie soils on flood plains. Jena soils are well drained, and Mantachie soils are somewhat poorly drained. Also included are small areas of soils that are similar to Mooreville soil. These soils are moderately well drained, but they have a browner and less gray subsoil than Mooreville soil. Also included in mapping are small areas of low-lying soils that are ponded for several days during wet periods.

Most of the acreage of this Mooreville soil is used for row crops or pasture. A small acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, proper arrangement of plant rows and surface field ditches are needed to remove excess surface water. Returning crop residue to the soil improves soil tilth and fertility. Conservation tillage also is a recommended management practice to help control erosion.

This soil is well suited to grasses and legumes for pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to loblolly pine, cherrybark oak, eastern cottonwood, green ash, sweetgum, and yellow-poplar. Seasonal wetness is a moderate limitation to use of equipment on this soil, but this limitation can be partly overcome by harvesting during the drier periods. Seedling mortality and plant competition are also moderate limitations for woodland use.

Flooding and wetness are severe limitations for most urban uses and to use as septic tank absorption fields. Low strength severely limits the use of this soil for local roads and streets.

This Mooreville soil is in capability subclass IIw and in woodland suitability group 1w8.

Oc—Ochlockonee fine sandy loam, occasionally flooded. This deep, well drained, nearly level soil is on flood plains. It formed in loamy alluvium. This soil is subject to brief periods of occasional flooding during the winter and early in the spring, generally before the growing season. The slope ranges from 0 to 2 percent.

Typically, the surface layer is brown fine sandy loam to a depth of about 6 inches. The subsurface layer is strong brown sandy loam to a depth of about 10 inches. The next layer, to a depth of about 25 inches, is brown loam that has yellowish brown silt loam mottles and strata. The next layer is brown sandy loam that has yellowish brown strata of silt loam to a depth of about 34 inches. The next layer, to a depth of about 53 inches, is dark yellowish brown loam that has brown mottles and strata of silt loam. Below that, to a depth of about 64 inches, it is dark brown loam. The lower part of the underlying material is strong brown loamy sand to a depth of about 77 inches or more.

This Ochlockonee soil ranges from medium acid to neutral in the surface layer and in the upper part of the underlying material. It is strongly acid to neutral in the lower part of the underlying material. Permeability is moderate, and the available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 3 to 5 feet in wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Jena and Mooreville soils on flood plains. Jena soils are well drained. Mooreville soils are moderately well drained.

Most of the acreage of this Ochlockonee soil is used as cropland or pasture. A small acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, a good management practice is returning crop residue to the soil to improve soil fertility and tilth. Surface field ditches are needed and plant rows should be properly arranged to remove excess surface water. Conservation tillage also is a recommended management practice.

This soil is moderately suited to grasses and legumes for pasture or hay. Overgrazing or grazing when the soil is too wet, however, causes compaction in the surface layer, poor tilth, and a slow rate of water infiltration. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to loblolly pine, yellow-poplar, eastern cottonwood, slash pine, sweetgum, and water oak. Limitations to woodland management are slight, but plant competition is a moderate limitation.

This soil is severely limited for most urban uses because of flooding and seasonal wetness. Flooding and wetness also severely limit its use as septic tank absorption fields.

This Ochlockonee soil is in capability subclass IIw and in woodland suitability group 1o7.

OkA—Okolona silty clay, 0 to 1 percent slopes. This deep, well drained, nearly level soil is on broad upland flats. It formed in a basic clayey material underlain by marly clay and chalk.

Typically, the surface layer is very dark grayish brown silty clay to a depth of about 7 inches. The subsurface layer is very dark grayish brown silty clay to a depth of about 14 inches. The next layer, to a depth of about 29 inches, is very dark grayish brown clay that has brownish mottles. Below that, to a depth of about 41 inches, is dark grayish brown clay that has brownish mottles. The underlying material is clay mottled in shades of brown to a depth of about 65 inches or more. This clay material has intersecting slickensides.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer.

This Okolona soil ranges from neutral to moderately alkaline throughout. Permeability is very slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 4 to 6 feet in wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when this soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Brooksville, Kipling, and Vaiden soils on uplands. These soils are somewhat poorly drained.

Most of the acreage of this Okolona soil is used for row crops. The remaining acreage is used for pasture or hay crops.

This soil is well suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will help control erosion and improve tilth. Contour farming also is a recommended management practice.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is poorly suited to woodland. Eastern redcedar and osageorange grow on the soil and are the recommended trees to plant. The neutral to alkaline

reaction of the Okolona soil limits the number of species adapted to this soil and reduces productivity.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to partly overcome these limitations. The very slow permeability of the clayey subsoil is a severe limitation to use as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields.

This Okolona soil is in capability subclass IIs and in woodland suitability group 4c2c.

OkB—Okolona silty clay, 1 to 3 percent slopes. This deep, well drained, gently sloping soil is on broad flats and hillsides on uplands. It formed in a basic clayey material underlain by marly clay and chalk.

Typically, the surface layer is very dark grayish brown silty clay to a depth of about 7 inches. The subsurface layer is very dark brown silty clay to a depth of about 14 inches. The next layer, to a depth of about 21 inches, is very dark grayish brown silty clay. The next layer, to a depth of about 35 inches, is very dark grayish brown silty clay that has brownish mottles. This silty clay material has intersecting slickensides in the lower part of this layer. The next layer, to a depth of about 46 inches, is dark grayish brown clay that has brownish mottles. This clay material has intersecting slickensides. Below that is light olive brown clay that has intersecting slickensides and brownish mottles to a depth of 60 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer. In a few areas, the thickness and character of the original plow layer has been modified.

This Okolona soil ranges from neutral to moderately alkaline throughout. Permeability is very slow, and the available water capacity is high. Runoff is medium. Erosion is a moderate hazard. The seasonal high water table is at a depth of 4 to 6 feet in wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Binnsville, Brooksville, and Vaiden soils. The Binnsville soils are well drained. The Brooksville and Vaiden soils are somewhat poorly drained.

Most of the acreage of this Okolona soil is used for cropland. The remaining acreage is used for pasture or hay.

This soil is well suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, good management practices, such as conservation tillage, terraces, grassed waterways, contour farming, crop rotation that includes grasses and legumes, and returning crop residue to the soil, help control erosion.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition and reduce erosion.

This soil is poorly suited to use as woodland. Eastern redcedar and osageorange grow on this soil and are the recommended trees to plant. The neutral to moderately alkaline reaction limits the number of species adapted to this soil and reduces productivity.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to partly overcome these limitations. The very slow permeability of the clayey subsoil is a severe limitation to use of this soil as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields.

This Okolona soil is in capability subclass IIe and in woodland suitability group 4c2c.

OtB2—Oktibbeha silty clay loam, 2 to 5 percent slopes, eroded. This deep, moderately well drained, gently sloping soil is on upland ridges and hillsides. It formed in an acid, clayey material underlain by marly clay and chalk.

Typically, the surface layer is dark grayish brown silty clay loam to a depth of about 4 inches. This silty clay loam material is mixed with reddish subsoil fragments. The upper part of the subsoil is red clay that has yellowish brown mottles to a depth of about 17 inches. The middle part, to a depth of about 27 inches, is red clay mottled in shades of brown and gray. The lower part of the subsoil is clay mottled in shades of brown, red, and gray to a depth of about 36 inches. This clay material has slickensides. The underlying material is clay mottled in shades of red, brown, and gray to a depth of about 44 inches. Below that is light yellowish brown marly clay that has yellowish mottles to a depth of about 60 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other areas, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Oktibbeha soil ranges from very strongly acid to slightly acid in the surface layer and in the subsoil. It ranges from neutral to moderately alkaline in the underlying material. Permeability is very slow, and the available water capacity is moderate. Runoff is medium. Erosion is a moderate hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture

content for tilling this soil is fairly narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Kipling and Sumter soils on uplands. Kipling soils are somewhat poorly drained. Sumter soils are well drained. Also included are small areas of Oktibbeha soils on which little or no erosion has occurred. These soils are used as woodland.

Most of the acreage of this Oktibbeha soil is used for row crops or pasture. A small acreage is used as woodland.

This soil is moderately suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, good management practices, such as returning crop residue to the soil, contour stripcropping, conservation tillage, crop rotation, contour farming, and grassed waterways, are needed to control erosion.

This soil is well suited to grasses and legumes for hay or pasture. Overgrazing can increase the hazard of erosion and increase runoff of surface water. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, eastern redcedar, and southern red oak. Plant competition and seedling mortality are moderate limitations to use as woodland. Poor trafficability during wet periods is a moderate limitation to use of equipment, but this limitation can be partly overcome by logging during drier periods.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The very slow permeability of the clayey subsoil is a severe limitation to use of this soil as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields.

This Oktibbeha soil is in capability subclass IIIe and in woodland suitability group 3c8.

OtC2—Oktibbeha silty clay loam, 5 to 8 percent slopes, eroded. This deep, moderately well drained, sloping soil is on narrow ridges and hillsides on uplands. It formed in an acid, clayey material underlain by marly clay and chalk.

Typically, the surface layer is dark grayish brown silty clay loam to a depth of about 4 inches. This silty clay loam material is mixed with reddish and brownish subsoil fragments. The upper part of the subsoil is yellowish red silty clay to a depth of about 14 inches. The middle part, to a depth of about 22 inches, is yellowish red silty clay that has brownish mottles. The lower part of the subsoil is silty clay mottled in shades of red, brown, and gray to a depth of about 34 inches. This silty clay material has intersecting slickensides. Below that is silty clay mottled in shades of brown and gray to a depth of about 80 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas of this soil have a few rills and shallow gullies.

This Oktibbeha soil ranges from very strongly acid to slightly acid in the surface layer and in the subsoil. It ranges from neutral to moderately alkaline in the underlying material. Permeability is very slow, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is hard when dry. If tilled when the soil is too dry or too wet, clods tend to form. The optimum range of moisture content for tilling this soil is fairly narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Kipling and Sumter soils on uplands. Kipling soils are somewhat poorly drained. Sumter soils are well drained. Also included are small areas of outcrops of chalk.

Most of the acreage of this Oktibbeha soil is used for pasture. A small acreage is used as woodland or for row crops.

This soil is poorly suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, grassed waterways, crop rotation that includes grasses and legumes, contour farming, and contour stripcropping, will reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, eastern redcedar, and southern red oak. Plant competition and seedling mortality are moderate limitations to the use as woodland. Poor trafficability during wet periods is a moderate limitation to use of equipment on this soil, but this limitation can be partly overcome by logging in drier periods.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The very slow permeability of the clayey subsoil is a severe limitation to use of this soil as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields.

This Oktibbeha soil is in capability subclass IVe and in woodland suitability group 3c8.

OuE2—Oktibbeha-Sumter complex, 8 to 15 percent slopes, eroded. This map unit consists of deep, strongly

sloping or moderately steep soils on uplands. Oktibbeha soil is moderately well drained. This soil formed in an acid, clayey material underlain by marly clay and chalk. Sumter soil is well drained. This soil formed in marly clay underlain by chalk. The Oktibbeha and Sumter soils are so intermingled that it was not practical to map them separately at the scale used in mapping. Mapped areas range from 20 to 500 acres.

In most areas, the original surface layer of these soils have been rilled and thinned by erosion. In a few areas, the subsoil is exposed, and a few rills and shallow gullies are present. In some areas, the surface layer is the original topsoil; in other places, it mainly is the subsoil.

Oktibbeha soil and soils that are similar make up about 47 percent of the map unit. Typically, the surface layer is brown silty clay loam to a depth of about 4 inches. The upper part of the subsoil is yellowish red silty clay that has brownish mottles to a depth of 14 inches. The middle part, to a depth of about 26 inches, is strong brown silty clay mottled in shades of red and gray. The lower part of the subsoil is silty clay mottled in shades of brown and gray to a depth of about 35 inches. This silty clay material has nonintersecting slickensides. The underlying material is silty clay mottled in shades of brown and gray to a depth of 60 inches.

Oktibbeha soil ranges from very strongly acid to slightly acid in the surface layer and in the subsoil and ranges from neutral to moderately alkaline in the underlying material. Permeability is very slow, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. This soil shrinks and cracks during dry periods.

Sumter soil and soils that are similar make up about 25 percent of the map unit. Typically, the surface layer is dark grayish brown silty clay to a depth of about 3 inches. The subsoil is light yellowish brown silty clay mottled in shades of brown and yellow to a depth of 23 inches. The next layer, to a depth of about 34 inches, is silty clay that has platy chalk fragments and is mottled in shades of gray, yellow, and brown. Below that, firm chalk in horizontal plates extends to a depth of 40 inches or more.

Sumter soil is mildly alkaline or moderately alkaline throughout. Permeability is slow, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

Included in mapping are small areas of Freest, Savannah, Leeper, and Marietta soils. Freest and Savannah soils are moderately well drained. These soils are on uplands. Leeper soils are somewhat poorly drained. They are on narrow flood plains. Marietta soils are moderately well drained, and they also are on narrow flood plains. These included soils make up about 28 percent of this map unit.

Most of the acreage of this map unit is used as pasture. The remaining acreage is in cutover woodland. A few small areas are used for row crops.

These soils are poorly suited to cultivated crops and small grains. Because of the steepness of slope, rapid runoff, and the severe erosion hazard, permanent vegetation of grasses and legumes or pine trees should be maintained on these soils.

The soils in this map unit are moderately suited to grasses and legumes for hay or pasture. Permanent vegetation should be maintained on these soils to help control erosion. Shaping and smoothing of gullies before planting are recommended practices. Proper stocking, controlled grazing, and weed and brush control reduce runoff and help control the hazard of erosion.

The Oktibbeha soil is moderately suited to loblolly pine, shortleaf pine, eastern redcedar, and southern red oak. Plant competition and seedling mortality are moderate limitations to use as woodland. Poor trafficability during wet periods is a moderate limitation to use of equipment on this soil, but this limitation can be partly overcome by logging during the drier periods. The Sumter soil is poorly suited to use as commercial woodland because the alkaline reaction limits the number of species adapted to this soil and reduces productivity.

The high shrink-swell potential of the Oktibbeha and Sumter soils is a severe limitation for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The restricted permeability of the clayey subsoil severely limits the use of these soils as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields.

The Oktibbeha and Sumter soils are in capability subclass VIe. The Oktibbeha soil is in woodland suitability group 3c8, and the Sumter soil is in woodland suitability group 4c2c.

OuF2—Oktibbeha-Sumter complex, 15 to 25 percent slopes, eroded. This map unit consists of soils that are deep or moderately deep to chalk on moderately steep or steep uplands. The Oktibbeha soil is moderately well drained. This soil formed in an acid, clayey material underlain by marly clay or chalk. The Sumter soil is well drained. This soil formed in marly clay underlain by chalk. Oktibbeha and Sumter soils are so intermingled that it was not practical to map them separately at the scale used in mapping. Mapped areas range from 20 to 200 acres.

In most areas, the original surface layer of these soils has been rilled and thinned by erosion. In a few areas, the subsoil has been exposed. A few rills and shallow gullies are in these areas. In some small areas, the surface layer is the original topsoil; in other places, it mainly is the subsoil.

Oktibbeha soil and soils that are similar make up about 46 percent of the map unit. Typically, the surface layer is dark brown fine sandy loam to a depth of about 4 inches. Reddish subsoil fragments are in the surface layer. The subsoil is yellowish red silty clay to a depth of 14 inches. To a depth of about 24 inches, it is a yellowish red clay that has brownish mottles. To a depth of about 33 inches, it is strong brown clay that has grayish mottles. The underlying material, to a depth of about 38 inches, is clay mottled in shades of brown and gray. The clay material has nonintersecting slickensides. The underlying material is weathered chalk to a depth of about 60 inches or more.

Oktibbeha soil ranges from very strongly acid to slightly acid in the surface layer and in the subsoil and ranges from neutral to moderately alkaline in the underlying material. Permeability is very slow, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. This soil shrinks and cracks during dry periods.

Sumter soil and soils that are similar make up about 36 percent of the map unit. Typically, the surface layer is dark grayish brown silty clay to a depth of about 4 inches. The subsoil is light yellowish brown silty clay to a depth of 23 inches. To a depth of about 36 inches, it is pale yellow silty clay. Platy chalk fragments are in the clay. The underlying material extends to a depth of 50 inches or more. It is weathered chalk in horizontal plates.

Sumter soil is mildly alkaline or moderately alkaline throughout. Permeability is slow, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

Included in mapping are Savannah, Leeper, and Marietta soils. Savannah soils are moderately well drained. They are on uplands. Leeper soils are somewhat poorly drained, and Marietta soils are moderately well drained. These soils are on narrow flood plains. The included soils make up about 18 percent of the map unit.

Most of the acreage in this map unit is in cutover woodland. The remaining acreage is used for pasture, or it is idle.

Because of steepness of slope, rapid runoff, and severe erosion hazard, these soils are poorly suited to row crops and small grains. Permanent vegetation of grasses or legumes or pine trees should be maintained on these soils to control erosion.

Oktibbeha and Sumter soils are poorly suited to grasses and legumes for hay or pasture. Permanent vegetation should be maintained on these soils to control erosion. Shaping and smoothing of gullies before planting are recommended practices.

Oktibbeha soil is moderately suited to loblolly pine, shortleaf pine, eastern redcedar, and southern red oak. Plant competition and seedling mortality are moderate limitations to use as woodland. Poor trafficability during wet periods is a moderate limitation to use of equipment on this soil, but this limitation can be partly overcome by logging during drier periods. Sumter soil is poorly suited to use as commercial woodland because the alkaline reaction limits the number of species adapted to this soil and reduces productivity.

The high shrink-swell potential of the Oktibbeha and Sumter soils and steepness of slope are severe limitations for urban use. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The restricted permeability of the clayey subsoil is a severe limitation to use as septic tank absorption fields, but this limitation can be partly overcome by installing a larger than average absorption field.

The Oktibbeha and Sumter soils are in capability subclass VIIe. Oktibbeha soil is in woodland suitability group 3c8, and Sumter soil is in woodland suitability group 4r3c.

Pt—Pits-Udorthents complex. This map unit consists of open excavations and the overburden material around the excavations. The excavations were made for the extraction of clay, sand, chalk, and fill material. In most areas, the overburden is 3 feet to more than 15 feet thick. Mapped areas range from 5 to 15 acres.

Pits are areas from which soil and underlying material have been removed for use in the building of roads and for use as fill material. Pits are scattered throughout the county.

The larger sand and clay pits mainly are in the southwestern part of the county in areas of Smithdale and Lucy soils. The overburden or soil has been removed for use in the building of roads or for fill material, or it is stockpiled. The sandy material has been removed to be used as construction material. The clayey material has been excavated to use in making bricks. The chalk has been removed and processed for agricultural lime.

Udorthents are piles of mixed soil material, such as sandy, loamy, and clayey soil material, remnants of the underlying material or the parent material of the original soils, and lime rock waste. The ingredients can vary at each pit site.

Pits-Udorthents complex mainly is devoid of vegetation. The establishment of vegetation requires major reclamation, including shaping, smoothing, adding topsoil, and applying lime and fertilizer to the soil. Pine trees grow slowly in these areas because of low soil fertility, and they do not grow well in the limy material.

This map unit has not been assigned to a capability class or to a woodland suitability group.

PuA—Prentiss fine sandy loam, 0 to 2 percent slopes. This deep, moderately well drained, nearly level

soil is on uplands and stream terraces. It formed in loamy material. This soil has a fragipan.

Typically, the surface layer is brown fine sandy loam to a depth of about 6 inches. The subsoil, to a depth of about 27 inches, is light yellowish brown sandy loam. Below that is a fragipan. The upper part of the fragipan, to a depth of about 46 inches, is light yellowish brown sandy loam mottled in shades of brown and gray. The lower part is loam mottled in shades of brown and gray to a depth of about 64 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Prentiss soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate in the surface layer and in the upper part of the subsoil. It is moderately slow in the fragipan. The available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. A perched water table is above the fragipan at a depth of 2 to 2 1/2 feet in wet periods. The fragipan restricts the root depth and limits the water available to the plants. The surface layer is friable and is easily tilled throughout a relatively wide range of moisture content. It tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Savannah and Stough soils. These soils are in similar positions on the landscape as the Prentiss soil. Savannah soils are moderately well drained, and Stough soils are somewhat poorly drained. Also included are a few small areas of a soil that is similar to the Prentiss soil except the lower part of the subsoil is nonacid. Also included in mapping are some soils in a few small low areas on stream terraces. These soils are subject to occasional flooding.

Most of the acreage of this Prentiss soil is used as cropland or pasture. A small acreage is in woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, proper arrangement of plant rows and surface field ditches are needed to remove excess surface water. Good management practices, such as conservation tillage and returning crop residue to the soil, improve soil fertility, reduce crusting and packing of the surface layer, and help control erosion.

This soil is well suited to grasses and legumes for pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to loblolly pine, shortleaf pine, sweetgum, cherrybark oak, and white oak. Woodland management limitations are slight.

This soil has moderate limitations for most urban uses. Seasonal wetness is the major limitation for this use. Wetness is a severe limitation for dwellings with basements. Special design and proper installation can help to overcome this limitation. The moderately slow permeability in the fragipan of this Prentiss soil and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Prentiss soil is in capability subclass IIw and in woodland suitability group 2o7.

PuB—Prentiss fine sandy loam, 2 to 5 percent slopes. This deep, moderately well drained, gently sloping soil is on uplands and stream terraces. It formed in loamy material. This soil has a fragipan.

Typically, the surface layer is brown fine sandy loam to a depth of about 5 inches. The subsoil is yellowish brown sandy loam to a depth of about 20 inches. Below that is a fragipan. The upper part of the fragipan is yellowish brown loam mottled in shades of gray and brown to a depth of about 46 inches. The lower part is loam mottled in shades of brown and gray to a depth of about 65 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Prentiss soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil and moderately slow through the fragipan. The available water capacity is moderate. Runoff is slow. Erosion is a slight to moderate hazard. A perched water table is above the fragipan at a depth of 2 to 2 1/2 feet in wet periods. The fragipan restricts the root depth and limits water available to the plants. The surface layer is friable and is easily tilled throughout a relatively wide range of moisture content. It tends to crust and pack after heavy rains.

Included with this soil in mapping are small areas of Savannah soils on uplands and stream terraces. These soils are moderately well drained. Also included are a few areas of soils that are similar to the Prentiss soil, but these soils are nonacid in the lower part of the subsoil.

Most of the acreage of this Prentiss soil is used as cropland or pasture. A small acreage is in woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, contour farming, crop rotation, terraces, and grassed waterways, will reduce runoff and help control erosion. Returning crop residue to the soil improves soil fertility and tilth and reduces crusting and packing of the surface layer.

This soil is well suited to grasses and legumes for pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to loblolly pine, shortleaf pine, sweetgum, cherrybark oak, and white oak. Woodland management limitations are slight.

This soil has moderate limitations for most urban uses because of seasonal wetness. Wetness is a severe limitation for dwellings with basements. Special design and proper installation can help to overcome this limitation. The moderately slow permeability in the fragipan and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Prentiss soil is in capability subclass IIe and in woodland suitability group 2o7.

PX—Prentiss-Stough association, undulating. This map unit consists of deep, moderately well drained or somewhat poorly drained, nearly level or gently sloping soils on uplands that have low relief. These soils formed in loamy material. The soils in this map unit are in a regular and repeating pattern. Individual areas of these soils are large enough to map separately, but because they are dominantly wooded and are expected to remain so, they were mapped as an association. The Prentiss soil has a fragipan. It is on gently sloping hillsides and on some of the slightly higher, broad flats. Stough soils are on nearly level, broad flats. Mapped areas range from 70 to about 300 acres. The slope ranges from 0 to 5 percent.

The moderately well drained Prentiss soil and soils that are similar make up about 55 percent of the map unit. Typically, the surface layer and subsurface layer are brown fine sandy loam to a depth of about 11 inches. The subsoil is brownish yellow loam that has brownish mottles to a depth of about 27 inches. Below that is a fragipan. The fragipan is loam mottled in shades of yellow, brown, and gray to a depth of about 60 inches or more.

Prentiss soil is very strongly acid or strongly acid throughout. Permeability is moderate in the upper part of the subsoil and moderately slow through the fragipan. The available water capacity is moderate. Runoff is slow. Erosion is a slight to moderate hazard. A perched water table is above the fragipan at a depth of 2 to 2 1/2 feet in wet periods. The fragipan restricts the root depth and limits the water available to the plants. The surface layer is friable and is easily tilled throughout a relatively wide range of moisture content. It tends to crust and pack after heavy rains if no residue is left on the surface.

The somewhat poorly drained Stough soil and soils that are similar make up about 20 percent of the map unit. Typically, the surface layer is brown fine sandy loam to a depth of about 5 inches. The subsoil is yellowish brown sandy loam that has grayish mottles to a depth of 24 inches. The next layer is sandy loam mottled in shades of yellow, gray, and brown to a depth of 65 inches or more. About 40 percent of this layer has fragipan characteristics, and root penetration is partly restricted.

This Stough soil is very strongly acid or strongly acid. Permeability is moderate in the surface layer and in the upper part of the subsoil. It is moderately slow in the lower part of the subsoil. The available water capacity is moderate. Runoff is medium or slow. Erosion is a slight hazard. A perched water table is at a depth of 1 foot to 1 1/2 feet during wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included in mapping are small areas of Talla and Vimville soils on uplands and stream terraces. The Talla soils are somewhat poorly drained, and the Vimville soils are poorly drained. Also included are a few areas of soils that have slope of 0 to 8 percent. The included soils make up about 25 percent of the map unit.

Most of the acreage of this map unit is used as woodland.

Prentiss soil is well suited to cotton, corn, soybeans, and small grains. Stough soil is moderately suited to these crops. If these soils are used for cultivated crops, good management practices, such as conservation tillage, contour farming, terraces, grassed waterways, and crop rotation, are needed on the gently sloping areas to reduce runoff and help control erosion. Returning crop residue to the soil improves soil tilth and fertility. Proper arrangement of plant rows and surface field ditches are needed to remove excess surface water on the nearly level areas.

Prentiss and Stough soils are well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

Prentiss soil is well suited to loblolly pine, shortleaf pine, sweetgum, cherrybark oak, and white oak. Woodland management limitations are slight. Stough soil is well suited to cherrybark oak, loblolly pine, slash pine, sweetgum, American sycamore, and yellow-poplar. Seasonal wetness is a moderate limitation to use of equipment on these soils, but this limitation can be partly overcome by logging during the drier periods. Plant competition is a moderate limitation to use as woodland.

The Prentiss and Stough soils have moderate limitations for urban use because of seasonal wetness. Wetness is a severe limitation for dwellings with basements. Special design and proper installation can help to overcome this limitation. These soils have severe limitations to use as septic tank absorption fields because of wetness and the moderately slow permeability in the lower part of the subsoil. These limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Prentiss soil is in capability subclass IIe and in woodland suitability group 2o7. The Stough soil is in

capability subclass IIIe and in woodland suitability group 2w8.

QU—Quitman fine sandy loam, undulating, occasionally flooded. This deep, moderately well drained, nearly level soil is on stream terraces. It formed in loamy material. The landscape is on broad, wooded flats that have some depressions and a few intermittent stream channels. This soil is subject to brief periods of occasional flooding during the winter and early in the spring before the growing season. Mapped areas range from 200 to about 1,200 acres. The slope ranges from 0 to 2 percent.

The Quitman soil and soils that are similar make up about 78 percent of the map unit. Typically, the surface layer is dark grayish brown fine sandy loam to a depth of about 5 inches. The next layer is grayish brown fine sandy loam to a depth of about 9 inches. The upper part of the subsoil is yellowish brown loam that has grayish mottles to a depth of about 14 inches. The next layer, to a depth of about 27 inches, is sandy clay loam mottled in shades of brown and gray. The next layer, to a depth of about 49 inches, is clay loam mottled in shades of brown and gray. The lower part of the subsoil is clay loam mottled in shades of brown, gray, and red to a depth of about 66 inches. The soils that are similar to Quitman soil differ in that reaction is about neutral in the subsoil at a depth of about 50 inches.

This Quitman soil is very strongly acid or strongly acid throughout. Permeability is moderately slow, and the available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 1/2 to 2 feet during wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. It tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Cahaba and Vimville soils. Cahaba soils are well drained. They are on the higher parts of stream terraces. Vimville soils are poorly drained. They are in depressions on stream terraces.

Most of the acreage of this Quitman soil is used as woodland. Unless protected, this soil is subject to occasional flooding during the winter and early in the spring.

This soil is well suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth, help control erosion and reduce crusting and packing of the surface layer after heavy rains. In places, proper arrangement of plant rows and surface field ditches are needed to remove surface water.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, slash pine, sweetgum, American sycamore, yellow-poplar, and water oak. Seasonal wetness is a moderate limitation to use of equipment on this soil. This limitation can be partly overcome by logging during the drier periods.

Flooding, wetness, and the moderately slow permeability of the subsoil are severe limitations for most urban uses and also to use as septic tank absorption fields.

This Quitman soil is in capability subclass IIw and in woodland suitability group 2w8.

RuB2—Ruston fine sandy loam, 2 to 5 percent slopes, eroded. This deep, well drained, gently sloping soil is on ridgetops and hillsides on uplands. This soil formed in loamy material.

Typically, the surface layer is brown fine sandy loam to a depth of about 4 inches. This sandy loam material is mixed with yellowish red fragments from the subsoil. The upper part of the subsoil is yellowish red sandy clay loam to a depth of about 11 inches. The next layer, to a depth of about 20 inches, is red sandy clay loam The next layer, to a depth of about 37 inches, is red sandy clay loam that has yellowish mottles. Below that, to a depth of about 48 inches, is red sandy clay loam that has pockets of light yellowish brown sandy loam that contains some clean sand grains. The lower part of the subsoil is red sandy clay loam that has yellowish mottles to a depth of about 62 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas of this soil have a few rills and shallow gullies.

This Ruston soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate, and the available water capacity is moderate. Runoff is medium or slow. Erosion is a moderate hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains.

Included with this soil in mapping are small areas of Savannah and Smithdale soils. Savannah soils are moderately well drained. These soils are on upland ridgetops. Smithdale soils are well drained. They are on upland hillsides. Also included are a few small areas of soils that have a surface layer that is about 10 inches thick.

Most of the acreage of this Ruston soil is used for pasture or row crops. Some of the acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage,

terraces, grassed waterways, returning crop residue to the soil, contour farming, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion.

This soil is well suited to grasses and legumes for hay or pasture. Overgrazing can increase the hazard of erosion and also increase runoff of surface water. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine and shortleaf pine. Limitations to woodland management are slight.

This soil has slight limitations for urban use. Low strength is a moderate limitation for local streets and roads. The limitation for use as septic tank absorption fields is slight.

This Ruston soil is in capability subclass IIe and in woodland suitability group 3o1.

RuC2—Ruston fine sandy loam, 5 to 8 percent slopes, eroded. This deep, well drained, sloping soil is on hillsides and ridgetops on uplands. This soil formed in loamy material.

Typically, the surface layer is dark yellowish brown fine sandy loam to a depth of about 4 inches. This fine sandy loam material has reddish aggregates from the subsoil. The upper part of the subsoil is yellowish red sandy clay loam to a depth of about 24 inches. The next layer, to a depth of about 31 inches, is yellowish red loam. Below that, to a depth of about 42 inches, is yellowish red loamy sand that has brownish pockets that contain clean sand grains. The lower part of the subsoil is red sandy clay loam to a depth of about 75 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas of this soil have a few rills and shallow gullies.

This Ruston soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate, and the available water capacity is moderate. Runoff is medium. Erosion is a moderate hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains.

Included with this soil in mapping are a few small areas of Savannah and Smithdale soils. Savannah soils are moderately well drained. They are on upland ridgetops. Smithdale soils are well drained. They are on upland hillsides.

This Ruston soil is only moderately suited to crops because of the steepness of slope and the hazard of erosion. This soil is easy to keep in good tilth if crop residue is returned to the soil. Good management practices, such as terraces, conservation tillage, contour farming, contour stripcropping, cover crops, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion.

This soil is well suited to grasses and legumes for hay or pasture. The use of this soil for hay or pasture helps control erosion. Overgrazing can increase the hazard of erosion and can also increase runoff of surface water. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine and shortleaf pine. Limitations to woodland management are slight.

This soil has slight limitations for urban use. Steepness of slope moderately limits use of this soil as sites for small commercial buildings. The limitation to use as septic tank absorption fields is slight. Low strength is a moderate limitation for local roads and streets.

This Ruston soil is in capability subclass IIIe and in woodland suitability group 3o1.

SaA—Savannah fine sandy loam, 0 to 2 percent slopes. This deep, moderately well drained, nearly level soil is on stream terraces and uplands. It formed in loamy material. This soil has a fragipan.

Typically, the surface layer is brown fine sandy loam to a depth of about 4 inches. The subsurface layer, to a depth of about 8 inches, is light olive brown sandy loam. The next layer, to a depth of about 12 inches, is yellowish brown sandy loam that has dark grayish brown mottles. The subsoil is yellowish brown loam to a depth of 25 inches. The next layer, to a depth of about 36 inches, is yellowish brown loam that has brownish mottles. Below that is a fragipan. The upper part of the fragipan, to a depth of about 50 inches, is loam mottled in shades of yellow, gray, brown, and red. The lower part is loam mottled in shades of brown, gray, and red to a depth of about 65 inches.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Savannah soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil and moderately slow through the fragipan. The available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. A perched water table is above the fragipan at a depth of 1 1/2 to 3 feet during wet periods. The fragipan restricts the root depth and limits the water available to plants. The surface layer is friable and is easily tilled throughout a relatively wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are a few small areas of Prentiss and Stough soils on uplands and

stream terraces. Prentiss soils are moderately well drained. Stough soils are somewhat poorly drained.

Most of the acreage of this Savannah soil is used as cropland or pasture. A small acreage is in woodland.

This soil is well suited to corn, cotton, soybeans, and small grains. If the soil is used for cultivated crops, proper arrangement of plant rows, grassed waterways, and surface field ditches are needed to remove excess surface water. Conservation tillage and returning crop residue to the soil improve soil fertility and tilth, help control erosion, and reduce crusting and packing of the surface layer.

This soil is well suited to grasses and legumes for pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, and southern red oak. Limitations to woodland management are slight, but plant competition is a moderate limitation.

This soil has moderate limitations for most urban uses. Seasonal wetness is the major limitation. Wetness is a severe limitation for dwellings with basements. Special design and proper installation can help to overcome this limitation. The moderately slow permeability in the fragipan and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Savannah soil is in capability subclass IIw and in woodland suitability group 3o7.

SaB—Savannah fine sandy loam, 2 to 5 percent slopes. This deep, moderately well drained, gently sloping soil is on ridgetops and hillsides on uplands and stream terraces. It formed in loamy material. This soil has a fragipan.

Typically, the surface layer is brown fine sandy loam to a depth of about 6 inches. The subsoil is strong brown loam to a depth of about 20 inches. Below that is a fragipan. The upper part of the fragipan, to a depth of about 29 inches, is yellowish brown loam that has mottles in shades of red and gray. The lower part is sandy clay loam mottled in shades of brown, red, and gray to a depth of 70 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Savannah soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil and moderately slow through the fragipan. The available water capacity is moderate. Runoff is medium or slow. Erosion is a slight to moderate hazard. A perched water table is above the fragipan at a depth of 1 1/2 to 3 feet during wet periods. The fragipan restricts the root depth and limits the water available to plants. The surface layer is friable and is easily tilled throughout a relatively wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are a few small areas of Prentiss and Ruston soils on uplands. Prentiss soils are moderately well drained. Ruston soils are well drained. Also included are a few small areas of soils that have a surface layer that has been thinned by erosion.

Most of the acreage of this Savannah soil is used as cropland or pasture. A small acreage is in woodland.

This soil is well suited to corn, cotton, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, crop rotation, contour farming, terraces, and grassed waterways, will reduce runoff and help control erosion. Returning crop residue to the soil improves soil fertility and tilth and reduces crusting and packing of the surface layer.

This soil is well suited to grasses and legumes for pasture or hay. Overgrazing or grazing when the soil is too wet causes compaction of the surface layer and poor soil tilth. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, and southern red oak. Limitations to woodland management are slight, but plant competition is a moderate limitation.

This soil has moderate limitations for most urban uses. Seasonal wetness is the major limitation. Wetness is a severe limitation for dwellings with basements. Special design and proper installation can help to overcome this limitation. Wetness and the moderately slow permeability in the fragipan are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Savannah soil is in capability subclass IIe and in woodland suitability group 3o7.

SaC2—Savannah fine sandy loam, 5 to 8 percent slopes, eroded. This is a deep, moderately well drained, sloping soil on hillsides on uplands. It formed in loamy material. This soil has a fragipan.

Typically, the surface layer is brown fine sandy loam to a depth of about 3 inches. The subsoil is yellowish brown loam that has brownish mottles to a depth of about 17 inches. Below that is a fragipan. The upper part of the fragipan, to a depth of about 42 inches, is clay loam mottled in shades of gray, brown, and red. The lower part is clay loam mottled in shades of gray and brown to a depth of 66 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas,

the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Savannah soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil, and it is moderately slow through the fragipan. The available water capacity is moderate. Runoff is medium. Erosion is a moderate hazard. A perched water table is above the fragipan at a depth of 1 1/2 to 3 feet during wet periods. The fragipan restricts the root depth and limits the water available to plants. The surface layer is friable and is easily tilled throughout a relatively wide range of moisture content. The soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are a few small areas of Ruston and Smithdale soils on uplands. These soils are well drained. Also included are some small areas of moderately well drained soils that are reddish in the upper part of the subsoil. These soils have a fragipan. Also included are a few small areas of soils that are nonacid in the lower part of the subsoil.

Most of the acreage of this Savannah soil is used as pasture or cropland. A small acreage is used as woodland.

This soil is moderately suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, contour farming, contour stripcropping, terraces, grassed waterways, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion. Returning crop residue to the soil improves soil fertility and tilth and reduces crusting and packing of the surface layer.

This soil is moderately suited to grasses and legumes for pasture or hay. Maintaining vegetation on this soil reduces runoff and helps control erosion. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, and southern red oak. Limitations to woodland management are slight, but plant competition is a moderate limitation.

This soil has moderate limitations for most urban uses. The main limitation is seasonal wetness. Steepness of slope and seasonal wetness are moderate limitations to use as sites for small commercial buildings, but special design and proper installation can help to overcome these limitations. Wetness and the moderately slow permeability in the fragipan are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing a larger than average absorption field.

This Savannah soil is in capability subclass IIIe and in woodland suitability group 3o7.

SaD2—Savannah fine sandy loam, 8 to 12 percent slopes, eroded. This deep, moderately well drained, strongly sloping soil is on hillsides on uplands. It formed in loamy material. This soil has a fragipan.

Typically, the surface layer is brown fine sandy loam to a depth of about 2 inches. The next layer, to a depth of about 5 inches, is yellowish brown sandy loam. The subsoil is strong brown loam that has brownish mottles to a depth of about 16 inches. Below that is a fragipan. The upper part of the fragipan, to a depth of about 25 inches, is loam mottled in shades of brown, red, and gray. The lower part is sandy clay loam and clay loam mottled in shades of brown and gray to a depth of 75 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Savannah soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil, and it is moderately slow through the fragipan. The available water capacity is moderate. Runoff is medium or rapid. Erosion is a severe hazard. A perched water table is above the fragipan at a depth of 1 1/2 to 3 feet during wet periods. The fragipan restricts the root depth and limits the water available to plants. The surface layer is friable and is easily tilled within a relatively wide range of moisture content. The soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are a few small areas of Smithdale and Oktibbeha soils on uplands. The Smithdale soils are well drained, and the Oktibbeha soils are moderately well drained. Also included are some small areas of soils that are moderately well drained. These soils are reddish in the upper part of the subsoil, and they have a fragipan. Also included are a few small areas of soils that are in woodland on which little or no erosion occurs, and a few small areas of soils that are nonacid in the lower part of the subsoil.

Most of the acreage of this Savannah soil is used as pasture or woodland. A small acreage is used as cropland.

This soil is poorly suited to cultivated crops and small grains because of steepness of slope, rapid runoff, and the hazard of erosion. If this soil is used for cultivated crops, good management practices, such as conservation tillage, contour farming, contour stripcropping, terraces, grassed waterways, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion. Returning crop residue to the soil improves soil fertility and tilth and reduces crusting and packing of the surface layer.

This soil is moderately suited to grasses and legumes for pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, and southern red oak. Limitations to woodland management are slight, but plant competition is a moderate limitation.

This soil has moderate limitations for most urban uses. Seasonal wetness and steepness of slope are the main limitations. Wetness is a severe limitation for dwellings with basements. Steepness of slope is a severe limitation as sites for small commercial buildings. Special design and proper installation can help to overcome these limitations. The moderately slow permeability in the fragipan is a severe limitation to use as septic tank absorption fields, but this limitation can be partly overcome by installing larger than average absorption fields.

This Savannah soil is in capability subclass IVe and in woodland suitability group 3o7.

SeA—Sessum silty clay, 0 to 2 percent slopes. This deep, poorly drained, nearly level soil is on broad flats on uplands. It formed in an acid, clayey material and in the underlying marl or chalk.

Typically, the surface layer is dark grayish brown silty clay to a depth of about 6 inches. The upper part of the subsoil is grayish brown clay that has yellowish brown mottles to a depth of about 10 inches. The next layer, to a depth of about 24 inches, is grayish brown clay that has brownish mottles. The next layer, to a depth of about 40 inches, is light brownish gray clay mottled in shades of brown. Below that, to a depth of about 54 inches, is grayish brown silty clay mottled in shades of olive and brown. This silty clay material has slickensides. The lower part of the subsoil is clay mottled in shades of gray, olive, and brown that has intersecting slickensides to a depth of about 60 inches. Below that, the underlying material is marly clay mottled in shades of gray and brown to a depth of about 70 inches or more.

This Sessum soil ranges from very strongly acid to medium acid in the surface layer and in the subsoil except in areas where the surface layer has been limed. The underlying material ranges from medium acid to moderately alkaline. Permeability is very slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1/2 foot to 1 1/2 feet during wet periods. The surface layer is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Kipling and Vaiden soils on uplands. These soils are somewhat poorly drained. Also included are a few small low areas of soils that are briefly ponded after a heavy rain.

Most of the acreage of this Sessum soil is used for pasture or hay. A few areas are used for cultivated crops. The remaining acreage is in woodland.

This soil is poorly suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will improve soil tilth and help control erosion. Proper arrangement of plant rows and surface field ditches are needed to remove surface water.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is moderately suited to loblolly pine, southern red oak, eastern redcedar, white oak, and sweetgum. Seasonal wetness is a moderate concern in woodland management. It also is a moderate limitation to harvesting the tree crop. This limitation can be partly overcome by logging during the drier periods. Seedling mortality and plant competition are moderate limitations to use as woodland.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for streets and roads. Special design and proper installation can help to overcome these limitations. Wetness and the very slow permeability in the lower part of the clayey subsoil are severe limitations to use of this soil as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Sessum soil is in capability subclass IVw and in woodland suitability group 3c8.

SmD2—Smithdale sandy loam, 8 to 15 percent slopes, eroded. This deep, well drained, strongly sloping to moderately steep soil is on hillsides on uplands. It formed in loamy material.

Typically, the surface layer is dark yellowish brown sandy loam to a depth of about 7 inches. The upper part of the subsoil is red sandy clay loam to a depth of about 30 inches. The middle part is red loam to a depth of about 41 inches. The lower part of the subsoil is red sandy loam to a depth of about 80 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Smithdale soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate, and the available water capacity is moderate. Runoff is rapid.

Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are a few small areas of Ruston and Sweatman soils on uplands. These soils are well drained. Also included are a few small areas of soils that are used as woodland. There is little or no erosion on these upland soils.

Most of the acreage of this Smithdale soil has been used for row crops but is now in pasture. Some areas have reverted to woodland.

This soil is poorly suited to cultivated crops because of steepness of slope, rapid runoff, and the severe hazard of erosion. If the soil is used for cultivated crops, good management practices, such as conservation tillage, contour farming, contour stripcropping, terraces, grassed waterways, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion. Returning crop residue to the soil improves soil fertility and tilth.

This soil is moderately suited to grasses and legumes for hay or pasture. Overgrazing can increase the hazard of erosion and can increase runoff of surface water. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine and shortleaf pine. Limitations to woodland management are slight.

This soil has moderate limitations for most urban uses. The main limitation is steepness of slope. Steepness of slope is a severe limitation to use as sites for small commercial buildings. This limitation can be partly overcome by special design and proper installation. Steepness of slope also is a moderate limitation for septic tank absorption fields, but this limitation can be partly overcome by installing the absorption fields on the contour.

This Smithdale soil is in capability subclass IVe and in woodland suitability group 3o1.

SmF3—Smithdale sandy loam, 15 to 30 percent slopes, severely eroded. This deep, well drained, moderately steep to steep soil is on hillsides on uplands. It formed in loamy material.

Typically, the surface layer is yellowish red sandy loam to a depth of about 4 inches. The upper part of the subsoil is red sandy clay loam to a depth of about 22 inches. The next layer is red loam to a depth of about 34 inches. The next layer is red sandy loam to a depth of about 50 inches. The lower part of the subsoil is red sandy loam that has brownish mottles to a depth of about 75 inches or more.

In most areas, most of the original surface layer has been lost through erosion. The surface layer is a mixture of the topsoil and the subsoil. However, in some areas where the original surface layer has been lost through erosion, the surface layer is made up of all subsoil material. Rills and shallow gullies are common, and in some areas a few deep gullies have formed that cannot be crossed by farm machinery.

This Smithdale soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

Included with this soil in mapping are a few small areas of Lucy and Sweatman soils on uplands. These soils are well drained. Also included are a few small areas of soils that are used as woodland. There is little or no erosion on these soils.

Most of the acreage of this Smithdale soil was used for row crops. It is now used as pasture or woodland.

This soil is poorly suited to cultivated crops and small grains because of the hazard of erosion, rapid runoff, and steepness of slope.

This soil is poorly suited to grasses and legumes for hay or pasture because of low productivity and steepness of slope. Permanent vegetation of grasses and legumes or trees should remain on this soil to help reduce erosion.

This soil is moderately suited to loblolly pine and shortleaf pine. Limitations to woodland management are slight. Erosion is a hazard on this soil, and steepness of slope limits the use of equipment. These limitations can be partly overcome by careful planning of harvesting operations, road construction, and site preparation.

Steepness of slope is a severe limitation for most urban uses. Special design and proper installation can partly overcome this limitation. Steepness of slope also is a severe limitation to use as septic tank absorption fields. This limitation can be partly overcome by installing absorption fields on the contour.

This Smithdale soil is in capability subclass VIIe and in woodland suitability group 3r1.

SP—Smithdale-Lucy association, hilly. This map unit consists of deep, well drained, moderately steep or steep soils on rough uplands. The landscape is steep hills that have narrow, winding ridgetops, steep hillsides, and narrow drainageways. The Smithdale and Lucy soils are in a regular and repeating pattern. Individual areas of these soils are large enough to map separately, but because of similar present and expected uses they were mapped as an association. The Smithdale soil formed in loamy material. This soil is on the lower part of the steep hillsides. The Lucy soil formed in sandy material and loamy material. This soil is on the narrow, sloping ridgetops and on the upper part of the steep hillsides. Mapped areas are mainly wooded and range from 160 to about 600 acres. The slope ranges from 15 to 35 percent.

The Smithdale soil makes up about 50 percent of the map unit. Typically, the surface layer is brown sandy loam to a depth of about 7 inches. The upper part of the subsoil is dark brown sandy loam to a depth of about 12 inches. The next layer, to a depth of 36 inches, is red sandy clay loam. The next layer, to a depth of about 45 inches, is red sandy clay loam that has some brownish aggregates. Below that, to a depth of about 62 inches, is red sandy loam that has brownish mottles. The lower part of the subsoil is red sandy loam to a depth of 80 inches or more.

This Smithdale soil is very strongly acid or strongly acid throughout. Permeability is moderate, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

The well drained Lucy soil makes up about 33 percent of the map unit. Typically, the surface layer is dark grayish brown loamy sand to a depth of about 4 inches. The next layer, to a depth of 22 inches, is dark yellowish brown loamy sand. The subsoil is red sandy loam to a depth of about 62 inches. Below that, it is yellowish red sandy loam to a depth of 70 inches or more.

This Lucy soil is very strongly acid or strongly acid throughout. Permeability is moderately rapid in the upper part of the profile and moderate in the lower part. The available water capacity is moderate to low. Runoff is medium. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

Included in mapping are small areas of Sweatman, Ruston, Savannah, Jena, and Mantachie soils. The Sweatman soils are well drained. They are on the lower part of upland hillsides. Ruston soils are well drained. They are on upland ridgetops. Savannah soils are moderately well drained. They are on upland ridgetops. Jena soils are well drained. These soils are on flood plains. Mantachie soils are somewhat poorly drained. These soils also are on flood plains. Also included are a few small areas of soils on narrow upland ridgetops that have slope less than 15 percent. The included soils make up about 17 percent of the map unit.

Most of the acreage of this map unit is used as woodland. A few areas, mainly the ridges, are used for pasture and crops.

The soils in this map unit are poorly suited to pasture, row crops, and small grains because of steep slope, rapid runoff, and the hazard of erosion.

These Smithdale and Lucy soils are poorly suited to grasses and legumes for hay or pasture because of low productivity and steepness of slope. Permanent vegetation of pine trees or of grasses and legumes should be maintained on these soils to help control erosion.

The Smithdale soil is moderately suited to loblolly pine, shortleaf pine, and southern red oak. Limitations to woodland management are slight. Erosion is a hazard on this soil. Steepness of slope is a moderate limitation to use of equipment. These limitations can be partly overcome by careful planning of harvesting operations, road construction, and site preparation. Poor trafficability caused by the sandy surface of the Lucy soil is a moderate limitation to use of equipment. Conventional equipment can be used on Lucy soil. Because of steepness of slope and runoff, there is an erosion hazard. Steepness of slope and runoff are moderate limitations to use of equipment on this soil. These limitations can be partly overcome by careful planning of harvesting operations, road construction, and site preparation.

Steepness of slope of the Smithdale and Lucy soils is a severe limitation for urban use. Special design and proper installation can partly overcome this limitation. Steepness of slope also is a severe limitation to use as septic tank absorption fields, but this limitation can be partly overcome by installing the absorption fields on the contour.

This Smithdale soil is in capability subclass VIIe and in woodland suitability group 3r1. The Lucy soil is in capability subclass VIs and in woodland suitability group 3s2.

StA—Stough fine sandy loam, 0 to 2 percent slopes. This deep, somewhat poorly drained, nearly level soil is on broad flats and stream terraces on uplands. This soil formed in loamy material.

Typically, the surface layer is dark grayish brown fine sandy loam to a depth of about 4 inches. The next layer, to a depth of 8 inches, is fine sandy loam mottled in shades of brown. The upper part of the subsoil is fine sandy loam mottled in shades of brown and gray to a depth of about 18 inches. The next part, to a depth of about 32 inches, is loam mottled in shades of brown and gray that is brittle and compact like a fragipan in about 40 percent of the mass. The lower part of the subsoil is sandy clay loam mottled in shades of brown and gray to a depth of about 60 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Stough soil is very strongly acid to strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderate in the upper part of the profile and moderately slow in the lower part. The available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 1 1/2 feet during wet periods. The surface layer is friable and is easily tilled within a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are a few small areas of Prentiss and Quitman soils on uplands or stream terraces. These soils are moderately well

drained. Also included are some small areas of a soil that is somewhat poorly drained and is nonacid in the lower part of the subsoil. These soils also are on uplands or stream terraces.

Most of the acreage of this Stough soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans (fig. 3), and small grains. If the soil is used for cultivated crops, proper arrangement of plant rows and surface field ditches are needed to remove surface water. Because this soil is slightly droughty, moisture stress affects crops during long dry periods. Conservation tillage and returning crop residue to the soil help control erosion and maintain good soil tilth.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is well suited to loblolly pine, cherrybark oak, slash pine, water oak, and sweetgum. Plant competition and seasonal wetness are moderate limitations to woodland management. Seasonal wetness can be partly overcome by logging during the dry periods.

Wetness is a severe limitation for urban use. Wetness and the moderately slow permeability in the lower part of the subsoil are severe limitations to use as septic tank

Figure 3.—Soybeans being harvested on Stough fine sandy loam, 0 to 2 percent slopes, a soil in land capability subclass IIw.

absorption fields. These limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Stough soil is in capability subclass IIw and in woodland suitability group 2w8.

SuB2—Sumter silty clay, 2 to 5 percent slopes, eroded. This deep to moderately deep to chalk, well drained, gently sloping soil is on ridgetops and hillsides on uplands. This soil formed in marly clay underlain by chalk.

Typically, the surface layer is dark grayish brown silty clay to a depth of about 5 inches. The subsoil is light yellowish brown silty clay mottled in shades of brown to a depth of about 39 inches. The underlying material is light brownish gray marly clay mottled in shades of brown and yellow to a depth of about 57 inches. Below that is firm chalk to a depth of 72 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Sumter soil is mildly alkaline or moderately alkaline throughout. Permeability is slow, and the available water capacity is moderate. Runoff is medium. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. The surface layer is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Binnsville, Demopolis, and Okolona soils on uplands. These soils are well drained.

Most of the acreage of this Sumter soil is used for pasture and row crops. A small acreage is used as woodland.

This soil is moderately suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, returning crop residue to the soil, terraces, grassed waterways, contour farming, contour stripcropping, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is poorly suited to woodland because of depth to marly clay or chalk and soil reaction. Eastern redcedar is an adapted species. Poor trafficability during wet periods is a moderate limitation to the use of equipment. Seedling mortality is a severe limitation to use as woodland.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations. The slow permeability of the clayey subsoil and depth to marly clay or chalk are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields.

This Sumter soil is in capability subclass IIIe and in woodland suitability group 4c2c.

SuD2—Sumter silty clay, 5 to 12 percent slopes, eroded. This deep to moderately deep to chalk, well drained, sloping or strongly sloping soil is on hillsides and narrow ridges on uplands. This soil formed in marly clay underlain by chalk.

Typically, the surface layer is dark grayish brown silty clay to a depth of about 4 inches. The subsoil is light olive brown silty clay mottled in shades of yellow and brown to a depth of about 20 inches. Below that is light olive brown silty clay mottled in shades of yellow, brown, and gray to a depth of about 38 inches. The underlying material is firm chalk.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Sumter soil is mildly alkaline or moderately alkaline throughout. Permeability is slow, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Binnsville, Demopolis, and Okolona soils on uplands. These soils are well drained. Also included are a few small areas of soils that have a silty clay loam surface layer.

Most of the acreage of this Sumter soil is used for pasture or hay. A small acreage is used for row crops. Some of the acreage has reverted to woodland that includes eastern redcedar and osageorange.

This soil is poorly suited to cultivated crops because of the steepness of slope, rapid runoff, and severe hazard of erosion. Because of steepness of slope and the severe hazard of erosion, permanent vegetation of grasses and legumes should be maintained on this soil.

This soil is poorly suited to grasses and legumes for hay or pasture because of low productivity. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is poorly suited to woodland because of depth to marly clay or chalk and soil reaction. Eastern redcedar is an adapted species. Poor trafficability during

wet periods is a moderate limitation to the use of equipment. Seedling mortality is severe.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for local roads and streets. Steepness of slope is a severe limitation to use as sites for small commercial buildings. Special design and proper installation can help to overcome these limitations. The slow permeability of the clayey subsoil and depth to marly clay or chalk are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields.

This Sumter soil is in capability subclass VIe and in woodland suitability group 4c2c.

SuE2—Sumter silty clay, 12 to 17 percent slopes, eroded. This deep to moderately deep to chalk, well drained, moderately steep soil is on hillsides on uplands. This soil formed in marly clay underlain by chalk.

Typically, the surface layer is dark grayish brown silty clay to a depth of about 4 inches. The upper part of the subsoil is light yellowish brown silty clay mottled in shades of brown to a depth of about 8 inches. The middle part, to a depth of about 22 inches, is light yellowish brown silty clay mottled in shades of brown and yellow. The lower part of the subsoil is light yellowish brown silty clay mottled in shades of gray and yellow to a depth of about 29 inches. The underlying material is firm chalk to a depth of about 50 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Sumter soil is mildly alkaline or moderately alkaline throughout. Permeability is slow, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. This soil shrinks and cracks during dry periods.

Included with this soil in mapping are a few small areas of Binnsville and Demopolis soils on uplands. These soils are well drained. Also included are a few small areas of soils that have a silty clay loam surface layer.

Most of the acreage of this Sumter soil is used for pasture. The remaining acreage is left idle or is in woodland that includes eastern redcedar and osageorange.

This soil is poorly suited to cultivated crops and small grains because of the steepness of slope, rapid runoff, and the hazard of erosion. Permanent vegetation of grasses and legumes should be maintained on this soil.

This soil is poorly suited to grasses and legumes for hay or pasture. Proper stocking, weed and brush control, and controlled grazing help keep the pasture and soil in good condition and help control erosion.

This soil is poorly suited to woodland because of depth to chalk and soil reaction. Eastern redcedar is an adapted species. Poor trafficability during wet periods is a moderate limitation to the use of equipment. Seedling mortality is severe.

Steepness of slope, the high shrink-swell potential, the slow permeability of the subsoil, and depth to chalk are severe limitations for most urban uses and to use as septic tank absorption fields. Low strength is a severe limitation for local roads and streets. Special design and proper installation can help to overcome these limitations.

This Sumter soil is in capability subclass VIe and in woodland suitability group 4c2c.

SvE3—Sumter-Demopolis-Rock outcrop, chalk complex, 5 to 20 percent slopes, severely eroded. This complex consists of sloping to steep, well drained soils on uplands. The Sumter soil is deep to moderately deep to chalk. The Demopolis soil is shallow. Rock outcrop consist of chalk. Sumter and Demopolis soils formed in clay and marly clay underlain by chalk. Rock outcrop is often exposed by gullies. The soils and Rock outcrop in this complex are so intermingled and form such an intricate pattern that it was not practical to map them separately at the scale used in mapping. Mapped areas range from 5 to 70 acres.

Sumter soil and soils that are similar make up about 35 percent of the map unit. Typically, the surface layer is dark grayish brown silty clay to a depth of about 3 inches. The subsoil is light yellowish brown silty clay that has yellowish mottles to a depth of about 17 inches. Below that, to a depth of about 24 inches, it is pale olive silty clay. The underlying material is firm chalk to a depth of about 30 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the topsoil and the subsoil or underlying material have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places it mainly is the subsoil or the underlying material, or it is exposed chalk. Patches of exposed chalk are common in some areas of rills and shallow gullies (fig. 4). In some places, a few, deep gullies have formed that cannot be crossed by farm machinery.

This Sumter soil is mildly alkaline or moderately alkaline throughout. Permeability is slow, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. This soil shrinks and cracks during dry periods.

Demopolis soil and soils that are similar make up about 33 percent of the map unit. Typically, the surface

Figure 4.—An area of Sumter-Demopolis-Rock outcrop, chalk complex, 5 to 20 percent slopes, severely eroded. Gully and sheet erosion have exposed the underlying Selma Chalk.

layer is dark grayish brown silty clay loam to a depth of about 2 inches. The underlying material is light brownish gray silty clay loam to a depth of about 12 inches. The next layer, to a depth of about 15 inches, is light gray platy fragments that have pale yellow mottles and light brownish gray silty clay loam between plates. Below that, gray chalk extends to a depth of about 30 inches or more.

This Demopolis soil is mildly alkaline or moderately alkaline throughout. Permeability is moderately slow, and the available water capacity is low. Runoff is very rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet. This soil shrinks and cracks during dry periods.

Rock outcrop and gullies make up about 23 percent of the map unit. Rock outcrop of chalk material has been so severely damaged by erosion that reclamation for use for row crops or as pasture would not be economical. Most of the surface layer and part of the subsoil have eroded away. Farm machinery cannot cross many gullies on which chalk outcrop is exposed. These areas support a very sparse cover of cedar trees and scrub hardwoods.

Included in mapping are small areas of Brooksville and Oktibbeha soils on uplands. Brooksville soils are somewhat poorly drained. Oktibbeha soils are moderately well drained. Also included are a few areas of Catalpa soils on narrow flood plains. These soils are moderately well drained. The included soils make up about 9 percent of the map unit.

Most of the acreage of this map unit is used for pasture, or it is idle. Many steep areas have reverted to native vegetation that is dominated by eastern redcedar and osageorange.

These soils are poorly suited to cultivated crops and small grains because of the steepness of slope, rapid runoff, and severe erosion hazard. Permanent vegetation should be maintained on these soils to help control erosion.

The Sumter and Demopolis soils are poorly suited to grasses and legumes because of low productivity. Good management practices for use of these soils as pasture include proper stocking, controlled grazing, and weed and brush control.

These Sumter and Demopolis soils are poorly suited to commercial wood production because of low productivity. Eastern redcedar is adapted to the soils in this map unit. Depth to bedrock that restricts root depth and causes severe seedling mortality and reaction are the main limitations to use of these soils as woodland.

The Sumter soil has severe limitations for most urban uses because of the high shrink-swell potential of the subsoil. Low strength is a severe limitation for local roads and streets. Steepness of slope is a severe limitation to use as sites for small commercial buildings. Demopolis soil has severe limitations for most urban uses because of depth to chalk. Steepness of slope is a severe limitation to use as sites for small commercial buildings. The slow permeability of the clayey subsoil and the depth to chalk are severe limitations to use of Sumter soil as septic tank apsorption fields. Depth to chalk is a severe limitation to use of Demopolis soil as septic tank absorption fields.

The Sumter and Demopolis soils are in capability subclass VIe, and the Rock outcrop, chalk, is in capability subclass VIIIs. The Sumter soil is in woodland suitability group 4c2c, the Demopolis soil is in woodland suitability group 4d3c, and the Rock outcrop, chalk, is not assigned to a woodland suitability group.

SW—Sweatman-Smithdale association, hilly. This map unit consists of deep, well drained, moderately steep to steep soils on uplands. These soils formed in clayey material and in loamy material. The landscape consists of hills that have winding ridgetops, steep hillsides, and narrow drainageways. The Sweatman and Smithdale soils are in a regular and repeating pattern. Individual areas of these soils are large enough to be mapped separately, but because of similar present and expected uses, they were mapped as an association. The Smithdale soil is on the upper part of the hillsides. The Sweatman soil is on the lower part of the hillsides. Mapped areas are mostly wooded, and they range from 200 to about 650 acres. The slope ranges from 15 to 35 percent.

The Sweatman soil and soils that are similar make up about 40 percent of the map units. Typically, the surface layer is dark grayish brown silt loam to a depth of about 4 inches that is underlain by brown silt loam to a depth of about 8 inches. The upper part of the subsoil is red silty clay that has brownish mottles to a depth of about 19 inches. The middle part, to a depth of about 27 inches, is red silty clay. This silty clay material contains grayish, partially weathered, shale fragments. The lower part of the subsoil is silty clay mottled in shades of red and brown to a depth of about 38 inches. This silty clay material also contains grayish, partially weathered, shale fragments. The underlying material is stratified layers of loamy material and weathered shale mottled in shades of brown and yellow to a depth of about 60 inches or more.

This Sweatman soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is moderately slow, and the available water capacity is high. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

The Smithdale soil and soils that are similar make up about 36 percent of the map unit. Typically, the surface layer is dark brown sandy loam to a depth of about 6 inches. The upper part of the subsoil is yellowish red loam to a depth of about 24 inches. The next layer, to a depth of about 49 inches, is red sandy clay loam. Below that, to a depth of about 61 inches, is red loam that has brownish mottles. The lower part of the subsoil is red sandy loam that has brownish mottles and pockets of pale brown sand to a depth of about 72 inches or more.

This Smithdale soil is very strongly acid or strongly acid throughout. Permeability is moderate, and the available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. There is no seasonal high water table within a depth of 6 feet.

Included in mapping are small areas of Ruston, Savannah, Lucy, Wilcox, Jena, and Mantachie soils. Ruston soils are well drained, and Savannah soils are moderately well drained. These soils are on narrow ridgetops on uplands. Lucy soils are well drained, and Wilcox soils are somewhat poorly drained. These soils are on hillsides. Jena soils are well drained, and Mantachie soils are somewhat poorly drained. These soils are on narrow flood plains. Also included are small areas of soils on narrow ridges that have slope of less than 15 percent. The included soils make up about 24 percent of the map unit.

The soils in this map unit mostly are used as woodland. A few areas of these soils that mainly are on the ridges are used for pasture or crops.

These soils are poorly suited to row crops and to pasture plants because of steepness of slope, rapid runoff, and the hazard of erosion. Permanent vegetation of grasses and legumes or trees should be maintained on these soils.

Sweatman and Smithdale soils are moderately suited to loblolly pine (fig. 5) and shortleaf pine. Steepness of slope is a moderate limitation to use of equipment on these soils. Erosion is a slight hazard on Sweatman soil and a moderate hazard on Smithdale soil. Seedling mortality and plant competition are slight.

The Sweatman and Smithdale soils are poorly suited for most urban uses because of steepness of slope. Sweatman soil has a severe limitation for local roads and streets because of low strength. The Smithdale soil that is on ridgetops and that has less than 15 percent slope is moderately suited to use as sites for dwellings. Special design and proper installation can help to overcome these limitations. The slow permeability and steepness of slope of the Sweatman soil are severe limitations to use as septic tank absorption fields. Installing larger than average drainage fields and placing them on the contour can partly overcome these limitations on the Sweatman soil. Steepness of slope is a severe limitation to use of the Smithdale soil as septic tank absorption fields.

Figure 5.—Regeneration of loblolly pine on Sweatman-Smithdale association, hilly.

The Sweatman and Smithdale soils are in capability subclass VIIe. The Sweatman soil is in woodland suitability group 3c2, and the Smithdale soil is in woodland suitability group 3rl.

TaA—Talla loam, 0 to 2 percent slopes. This deep, somewhat poorly drained, nearly level soil is on upland flats and stream terraces. This soil formed in loamy material.

Typically, the surface layer is brown loam to a depth of about 6 inches. The subsurface layer, to a depth of about 12 inches, is loam mottled in shades of brown. The upper part of the subsoil is loam mottled in shades of brown to a depth of about 29 inches. This loam material contains gray tongues of fine sandy loam. The middle part, to a depth of about 46 inches, is clay loam mottled in shades of brown and gray. This clay loam material also contains tongues of fine sandy loam. The

lower part of the subsoil is clay loam mottled in shades of brown, gray, and red to a depth of 60 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer.

This Talla soil is very strongly acid or strongly acid in the upper part of the profile except in areas where the surface layer has been limed. It ranges from very strongly acid to moderately alkaline in the lower part. Permeability is moderately slow, and the available water capacity is moderate to low. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 3 feet during wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included with this soil in mapping are small areas of Freest, Stough, and Vimville soils on uplands and stream terraces. Freest soils are moderately well drained. Stough soils are somewhat poorly drained. Vimville soils are poorly drained. Also included are a few small areas of soils that have a fine sandy loam surface layer.

Most of the acreage of this Talla soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is moderately suited to cotton, corn, soybeans (fig. 6), and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will help control erosion and maintain soil tilth. In some places, proper arrangement of plant rows and surface field ditches are needed to remove excess surface water. This soil is slightly droughty, and crops are affected by moisture stress during dry periods. Root penetration can be limited because of the high sodium content in the upper part of the subsoil.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is moderately suited to poorly suited to loblolly pine, sweetgum, and water oak. Plant competition is a moderate limitation for establishing pine trees. If pine trees are planted, site preparation is needed to control competition from undesirable plants, but the benefits of site preparation do not extend beyond one growing season. Wetness is a severe limitation to use of equipment in woodland management. Seedling mortality is severe because of wetness and the high sodium content in the subsoil (fig. 7).

This soil has severe limitations for urban use. Wetness and the high sodium content in the upper part of the subsoil are severe limitations for maintaining lawns and landscaping. Wetness and the moderately slow permeability are severe limitations to use as septic tank

Figure 6.—Soybeans do not grow well on Talla loam, 0 to 2 percent slopes, because of the high sodium content in the upper part of the subsoil.

Figure 7.—Palmetto and pine trees in an area of Talla loam, 0 to 2 percent slopes. This soil has a high sodium content in the upper part of the subsoil.

absorption fields. These limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Talla soil is in capability subclass IIIw and in woodland suitability group 3w8.

Ub—Urbo silty clay loam, occasionally flooded. This deep, somewhat poorly drained, nearly level soil is on flood plains. It formed in an acid, clayey alluvium. This soil is subject to brief periods of occasional flooding

during the winter and early in the spring before the growing season. The slope ranges from 0 to 2 percent.

Typically, the surface layer is dark grayish brown silty clay loam to a depth of about 5 inches. The subsoil is dark grayish brown silty clay mottled in shades of brown to a depth of about 37 inches; and below that is dark grayish brown clay mottled in shades of brown to a depth of about 70 inches or more.

This Urbo soil is very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Permeability is very slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 2 feet during wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Jena, Mantachie, and Mooreville soils on flood plains. Jena soils are well drained. Mantachie soils are somewhat poorly drained. Mooreville soils are moderately well drained. Also included is a soil that is similar to Urbo soil except it has a dominantly grayish subsoil. This soil is on flood plains. Also included are a few small low-lying areas of soils that are flooded for several days during wet periods.

Most of the acreage of this Urbo soil is used for row crops or pasture. A small acreage is used as woodland.

This soil is well suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, proper arrangement of plant rows and surface field ditches are needed to remove excess surface water. Returning crop residue to the soil improves soil fertility and tilth.

This soil is well suited to grasses and legumes for pasture or hay. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is well suited to eastern cottonwood, loblolly pine, sweetgum, American sycamore, yellow-poplar, green ash, and cherrybark oak. Seasonal wetness and flooding are moderate limitations to use of equipment on this soil, but these limitations can be partly overcome by harvesting during the drier periods. Erosion is a slight hazard, seedling mortality is slight, and plant competition is moderate.

Flooding, seasonal wetness, and very slow permeability of the subsoil are severe limitations for urban use and for septic tank absorption fields. Low strength is a severe limitation for local roads and streets.

This Urbo soil is in capability subclass IIw and in woodland suitability group 1w8.

UM—Urbo-Mantachie association, occasionally flooded. This map unit consists of deep, somewhat poorly drained, nearly level soils on flood plains. The soils formed in clayey alluvium and in loamy alluvium. The landscape consists of wide, wooded flood plains that are from one-eighth of a mile to 1 mile wide. There are scattered oxbow lakes, old stream channels, sloughs, and depressions in these areas. Urbo and Mantachie soils are subject to brief periods of flooding each year, mostly in the winter and early in the spring before the growing season. The sloughs and depressions are flooded for longer periods. Some of the higher areas overflow less frequently. The soils in this map unit are in a regular and repeating pattern. Individual areas of these soils are large enough to have been mapped separately, but because of present and expected continued use, they were mapped as an association. The Urbo soil mainly is on broad flats and in depressions adjacent to the main streams. The Mantachie soil is in the slightly higher areas and generally is near the stream channels. Mapped areas range from 160 to about 1,000 acres. The slope ranges from 0 to 2 percent.

Urbo soil and soils that are similar make up about 56 percent of the map unit. Typically, the surface layer is dark grayish brown silty clay loam to a depth of about 6 inches. The upper part of the subsoil is yellowish brown silty clay mottled in shades of brown and gray to a depth of 14 inches. The middle part, to a depth of about 29 inches, is grayish brown silty clay mottled in shades of brown. The lower part of the subsoil is silty clay mottled in shades of brown and gray to a depth of 70 inches or more.

This Urbo soil is very strongly acid or strongly acid throughout. Permeability is very slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 2 feet in winter and early in the spring. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

The Mantachie soil and soils that are similar make up about 25 percent of the map unit. Typically the surface layer is brown loam to a depth of about 5 inches. The subsoil is sandy clay loam mottled in shades of brown and gray to a depth of about 25 inches. Below that, it is light brownish gray clay loam that has mottles in shades of brown to a depth of 60 inches or more.

This Mantachie soil is very strongly acid or strongly acid throughout. Permeability is moderate, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 1 1/2 feet during wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. The soil tends to crust and pack after heavy rains if no residue is left on the surface.

Figure 8.—Champion Duran oak tree—139 feet in height and 63 inches in diameter breast high—on Urbo-Mantachie association, occasionally flooded. This tree is in the Noxubee Wildlife Refuge.

Included in mapping are Jena and Mooreville soils on flood plains of major streams. Jena soils are well drained, and Mooreville soils are moderately well drained. Also included are small areas of Cahaba, Quitman, and Stough soils on stream terraces that are in higher positions on the landscape. Cahaba soils are well drained, Quitman soils are moderately well drained, and Stough soils are somewhat poorly drained. Also included are some poorly drained, clayey soils in depressions and a few low areas of soils that are ponded for brief periods after heavy rainfall. The included soils make up about 19 percent of the map unit.

Most of the acreage in this map unit is in hardwood forests.

The soils in this map unit are well suited to cotton, corn, soybeans, and small grains. Seasonal wetness is the main limitation to use for crops. If the soils are used for cultivated crops, proper arrangement of plant rows and surface field ditches are needed to remove excess surface water. Returning crop residue to the soil improves fertility and tilth.

Urbo and Mantachie soils are well suited to grasses and legumes for hay and pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

The Urbo soil is well suited to loblolly pine, cherrybark oak, sweetgum, yellow-poplar, American sycamore, green ash, and eastern cottonwood (fig. 8). Seasonal wetness and flooding are moderate limitations to the use of equipment on this soil. Logging during drier periods partly overcomes these limitations. Erosion is a slight hazard, seedling mortality is slight, and plant competition is moderate. The Mantachie soil is well suited to loblolly pine, cherrybark oak, sweetgum, yellow-poplar, green ash, and eastern cottonwood. Seasonal wetness and flooding are severe limitations to use of equipment. Logging during drier periods partly overcomes these limitations. Plant competition is severe.

Flooding and seasonal wetness of the Mantachie soil are severe limitations for urban use and to use as septic tank absorption fields. Flooding, seasonal wetness, and the very slow permeability of the subsoil of the Urbo soil are severe limitations for urban use and to use as septic tank absorption fields. Low strength of the Urbo soil is a severe limitation for local roads and streets.

The Urbo and Mantachie soils are in capability subclass IIw. The Urbo soil is in woodland suitability group 1w8, and the Mantachie soil is in woodland suitability group 1w9.

VaA—Vaiden silty clay, 0 to 2 percent slopes. This deep, somewhat poorly drained, nearly level soil is on broad flats on uplands. This soil formed in an acid, clayey material underlain by chalk.

Typically, the surface layer is brown silty clay to a depth of about 6 inches. The subsoil is yellowish brown clay mottled in shades of gray and red to a depth of about 17 inches. Below that, it is clay mottled in shades of brown and gray to a depth of about 36 inches. The underlying material is clay mottled in shades of brown and gray to a depth of about 60 inches.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

Figure 9.—Vaiden silty clay, 0 to 2 percent slopes, has high shrink-swell potential.

This Vaiden soil ranges from very strongly acid to medium acid in the surface layer and in the subsoil. It ranges from very strongly acid to mildly alkaline in the underlying material. Permeability is very slow, and the available water capacity is moderate. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 1 foot to 2 feet during wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling

this soil is narrow. The soil shrinks and cracks during dry periods (fig. 9).

Included with this soil in mapping are a few small areas of Brooksville and Kipling soils on uplands. These soils are somewhat poorly drained. Also included are a few small areas of soils that have a surface layer that has been thinned by erosion, and a few small areas of soils that have weathered chalk at a depth of less than 60 inches.

Most of the acreage of this Vaiden soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is moderately suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will help control erosion and improve tilth. Proper arrangement of plant rows and surface field ditches are needed to remove excess surface water.

This soil is moderately suited to grasses and legumes for hay or pasture (fig. 10). Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, eastern redcedar, and southern red oak. Plant competition is a severe limitation to woodland use. Seasonal wetness is a moderate limitation to use of equipment in woodland management. This limitation can be partly overcome by logging during the drier periods. Erosion is a slight hazard, and seedling mortality is severe.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for streets and roads. Special design and proper installation can help to overcome these limitations. The very slow permeability of the clayey subsoil and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Vaiden soil is in capability subclass IIIw and in woodland suitability group 3c8.

VaB2—Vaiden silty clay, 2 to 5 percent slopes, eroded. This deep, somewhat poorly drained, gently sloping soil is on broad hillsides and ridges on uplands. This soil formed in an acid, clayey material underlain by chalk.

Typically, the surface layer is dark yellowish brown silty clay to a depth of about 4 inches. The subsoil is clay mottled in shades of brown, gray, and red to a depth of 24 inches. The underlying material is clay mottled in shades of brown, gray, and red to a depth of about 43 inches. Clay mottled in shades of brown and gray is below that to a depth of about 62 inches.

In most areas, part of the original surface layer has been removed by erosion (fig. 11), and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Vaiden soil ranges from very strongly acid to medium acid in the surface layer and in the subsoil. It ranges from very strongly acid to mildly alkaline in the underlying material. Permeability is very slow, and the available water capacity is moderate. Runoff is medium. Erosion is a moderate hazard. The seasonal high water table is at a depth of 1 foot to 2 feet during wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are a few small areas of Brooksville, Kipling, and Sumter soils on uplands. Brooksville and Kipling soils are somewhat poorly drained. Sumter soils are well drained. Also included are a few small areas of soils that have weathered chalk at a depth of less than 60 inches.

Most of the acreage of this Vaiden soil is used for pasture or row crops. A small acreage is used as woodland.

This soil is moderately suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, terraces, grassed waterways, returning crop residue to the soil, contour farming, contour stripcropping, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, eastern redcedar, and southern red oak. Plant competition is severe. Seasonal wetness is a moderate limitation to use of equipment in woodland management. This limitation can be partly overcome by logging during the drier periods. Erosion is a slight hazard, and seedling mortality is severe.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for streets and roads. Special design and proper installation can help to overcome these limitations. The very slow permeability of the clayey subsoil and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Vaiden soil is in capability subclass IIIe and in woodland suitability group 3c8.

Figure 10.—A mixture of commonly grown pasture plants and pine trees in an area of Vaiden silty clay, 0 to 2 percent slopes.

Figure 11.—Soil erosion in a soybean field on Vaiden silty clay, 2 to 5 percent slopes, eroded.

VaC2—Vaiden silty clay, 5 to 8 percent slopes, eroded. This deep, somewhat poorly drained, sloping soil is on hillsides on uplands. This soil formed in an acid, clayey material underlain by chalk.

Typically, the surface layer is dark yellowish brown silty clay to a depth of about 4 inches. The subsoil is clay mottled in shades of brown, red, and gray to a depth of about 30 inches. The underlying material is clay mottled in shades of brown and gray to a depth of about 65 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Vaiden soil ranges from very strongly acid to medium acid in the surface layer and in the subsoil. It ranges from very strongly acid to mildly alkaline in the underlying material. Permeability is very slow, and the

available water capacity is moderate. Runoff is rapid. Erosion is a severe hazard. The seasonal high water table is at a depth of 1 foot to 2 feet during wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are a few small areas of Kipling, Oktibbeha, and Sumter soils on uplands. Kipling soils are somewhat poorly drained. Oktibbeha soils are moderately well drained. Sumter soils are well drained. Also included are a few small areas of chalk outcrop and a few small areas of soils that have weathered chalk at a depth of less than 5 feet.

Most of the acreage of this Vaiden soil is used for pasture or row crops. A small acreage is used as woodland.

This soil is poorly suited to cultivated crops because of the erosion hazard. If the soil is used for cultivated crops, good management practices, such as conservation tillage, contour farming, contour stripcropping, grassed waterways, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, eastern redcedar, and southern red oak. Plant competition is severe. Seasonal wetness is a moderate limitation to use of equipment in woodland management. This limitation can be partly overcome by logging during the drier periods. Erosion is a slight hazard, and seedling mortality is severe.

The high shrink-swell potential of this soil is a severe limitation for most urban uses. Low strength is a severe limitation for streets and roads. Special design and proper installation can help overcome these limitations. The very slow permeability of the clayey subsoil and wetness are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields and by removing surface water.

This Vaiden soil is in capability subclass IVe and in woodland suitability group 3c8.

VmA—Vimville loam, 0 to 2 percent slopes. This deep, poorly drained, nearly level soil is on uplands and stream terraces. This soil formed in loamy material.

Typically, the surface layer is dark grayish brown loam to a depth of about 6 inches. The next layer is grayish brown loam that has grayish and brownish mottles to a depth of about 10 inches. The subsoil is grayish brown loam that has brownish mottles to a depth of about 19 inches. Below that, it is grayish brown clay loam that has brownish mottles to a depth of about 65 inches or more.

This Vimville soil ranges from very strongly acid to slightly acid in the surface layer. It ranges from very strongly acid to neutral in the upper part of the subsoil and from medium acid to mildly alkaline in the lower part. Permeability is slow, and the available water capacity is high. Runoff is slow. Erosion is a slight hazard. The seasonal high water table is at a depth of 6 inches to 1 foot during wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. The soil tends to crust and pack after heavy rains.

Included in mapping are a few small areas of Stough and Talla soils on stream terraces and uplands. These soils are somewhat poorly drained. Also included are a few small low areas of soils that are occasionally flooded for brief periods generally during the winter and in the spring.

Most of the acreage of this Vimville soil is used for row crops or pasture. The remaining acreage is used as woodland.

This soil is moderately suited to corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage and returning crop residue to the soil, will help control erosion and improve soil fertility and tilth. Proper arrangement of plant rows and surface field ditches are needed to remove surface water.

This soil is well suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, installing surface field ditches, and controlling weed and brush help keep the soil and pasture in good condition.

This soil is well suited to green ash, loblolly pine, Nuttall oak, Shumard oak, water oak, willow oak, and sweetgum. Plant competition is moderate. Wetness is a severe limitation to use of equipment in woodland management. Erosion is a slight hazard, and seedling mortality is severe.

This soil has severe limitations for most urban uses because of wetness. Low strength is a severe limitation for local roads and streets. Special design, proper installation, and removal of surface water can partly overcome these limitations. Wetness and slow permeability are severe limitations to use as septic tank absorption fields. These limitations can be partly overcome by removing surface water and by installing larger than average absorption fields.

This Vimville soil is in capability subclass IIIw and in woodland suitability group 2w9.

WcB2—Wilcox silty clay loam, 2 to 5 percent slopes, eroded. This deep, somewhat poorly drained, gently sloping soil is on upland ridgetops and hillsides. This soil formed in an acid, clayey material underlain by shale.

Typically, the surface layer is dark brown silty clay loam to a depth of about 5 inches. The upper part of the subsoil is silty clay mottled in shades of brown, gray, and red to a depth of about 33 inches. The lower part of the subsoil is clay mottled in shades of gray, brown, and red to a depth of about 50 inches. The underlying material, to a depth of 57 inches, is clay mottled in shades of gray, brown, and red. To a depth of 73 inches or more is soft weathered shale in shades of gray and olive.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas of this soil have a few rills and shallow gullies.

This Wilcox soil ranges from extremely acid to strongly acid throughout except in areas where the surface layer has been limed. Permeability is very slow, and the available water capacity is high. Runoff is medium. Erosion is a moderate hazard. A seasonal high water table is at a depth of 1 1/2 to 3 feet during wet periods. The surface layer is sticky when wet, and it is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are small areas of Falkner and Longview soils on uplands. These soils are somewhat poorly drained.

This Wilcox soil mostly is used for pasture and row crops. In small areas, it is used as woodland.

This soil is moderately suited to cotton, corn, soybeans, and small grains. If this soil is used for cultivated crops, good management practices, such as conservation tillage, terraces, grassed waterways, returning crop residue to the soil, contour farming, contour stripcropping, and crop rotation that includes grasses and legumes, reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is moderately suited to loblolly pine (fig. 12), slash pine, and shortleaf pine. Seasonal wetness and the clayey texture of the surface layer are the main concerns in woodland management. They limit the use of equipment on this soil, but these limitations can be partly overcome by logging during the drier periods. Erosion is a slight hazard, plant competition is slight, and seedling mortality is moderate.

Wetness and the high shrink-swell potential of this soil are severe limitations for urban use. Low strength is a severe limitation for local roads and streets. Special design, proper installation, and removal of surface water can help to overcome these limitations. Wetness and the very slow permeability of the clayey subsoil are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by removing surface water and by installing a larger than average absorption field.

This Wilcox soil is in capability subclass IIIe and in woodland suitability group 3c2.

WcC2—Wilcox silty clay loam, 5 to 8 percent slopes, eroded. This deep, somewhat poorly drained, sloping soil is on narrow ridgetops and hillsides on uplands. This soil formed in an acid, clayey material underlain by shale.

Typically, the surface layer is dark grayish brown silty clay loam to a depth of about 4 inches. The subsoil is dark brown silty clay to a depth of about 11 inches. Below that, it is clay mottled in shades of red, brown, and gray to a depth of about 41 inches. The underlying material is gray weathered shale to a depth of about 60 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and shallow gullies.

This Wilcox soil ranges from extremely acid to strongly acid throughout except in areas where the surface layer has been limed. Permeability is very slow, and the available water capacity is high. Runoff is rapid. Erosion is a severe hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet during wet periods. The surface layer is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

Included with this soil in mapping are a few small areas of Sweatman soils on uplands. These soils are well drained. Also included is a soil that is similar to Wilcox soil but does not have grayish mottles in the upper part of the subsoil. This soil is on uplands.

Most of the acreage of this Wilcox soil is used for pasture or row crops. A small acreage is used as woodland.

This soil is poorly suited to cotton, corn, soybeans, and small grains. If the soil is used for cultivated crops, good management practices, such as conservation tillage, terraces, grassed waterways, contour farming, contour stripcropping, and crop rotation that includes grasses and legumes, will reduce runoff and help control erosion.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

This soil is moderately suited to loblolly pine, slash pine, and shortleaf pine. Seasonal wetness and the clayey texture of the surface layer are the main

Figure 12.—Loblolly pine on Wilcox silty clay loam, 2 to 5 percent slopes, eroded. This soil is in woodland suitability group 3c2.

limitations to use of equipment in woodland management. These limitations can be partly overcome by logging during the drier periods. Erosion is a slight hazard, plant competition is slight, and seedling mortality is moderate.

Wetness and the high shrink-swell potential of this soil are severe limitations for urban use. Low strength is a severe limitation for local roads and streets. Special design, proper installation, and removal of surface water can help to overcome these limitations. Wetness and the very slow permeability of the clayey subsoil are severe limitations to use of this soil as septic tank absorption fields, but these limitations can be partly overcome by removing surface water and by installing larger than average absorption fields.

This Wilcox soil is in capability subclass IVe and in woodland suitability group 3c2.

WcD2—Wilcox silty clay loam, 8 to 15 percent slopes, eroded. This deep, somewhat poorly drained, strongly sloping or moderately steep soil is on hillsides on uplands. This soil formed in an acid, clayey material underlain by shale.

Typically, the surface layer is brown silty clay loam to a depth of about 4 inches. The upper part of the subsoil is dark brown silty clay to a depth of about 8 inches. The middle part is yellowish red silty clay that has grayish mottles to a depth of about 13 inches. The lower part of the subsoil is clay mottled in shades of gray, brown, and red to a depth of about 42 inches or more. The underlying material, to a depth of 60 inches, is clay mottled in shades of gray and brown. Below that is weathered shale to a depth of about 70 inches or more.

In most areas, part of the original surface layer has been removed by erosion, and the remaining topsoil and subsoil have been mixed by tillage. In some small areas, the plow layer is the original topsoil; in other places, it mainly is the subsoil. Some areas have a few rills and deep gullies.

This Wilcox soil ranges from extremely acid to strongly acid throughout except in areas where the surface layer has been limed. Permeability is very slow, and the available water capacity is high. Runoff is rapid. Erosion is a severe hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet during wet periods.

Included with this soil in mapping are a few small areas of Sweatman soils on uplands. These soils are well drained. Also included is a soil that is similar to Wilcox soil but does not have grayish mottles in the upper part of the subsoil. This soil is on uplands.

Most of the acreage of this Wilcox soil is used as woodland. A small acreage is used as pasture.

This soil is poorly suited to row crops and small grains because of steepness of slope, rapid runoff, and severe erosion hazard. Permanent vegetation of grasses and legumes or trees should be maintained on this soil.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, slash pine, and shortleaf pine. Seasonal wetness and the clayey texture of the surface layer are the main limitations to use of equipment in woodland management. These limitations can be partly overcome by logging during the drier periods. Erosion is a slight hazard, plant competition is slight, and seedling mortality is moderate.

Wetness, steepness of slope, and the high shrink-swell potential of this soil are severe limitations for urban use. Low strength is a severe limitation for local roads and streets. Wetness and steepness of slope are severe limitations to use as sites for small commercial buildings. However, special design and proper installation can partly overcome these limitations. The very slow permeability of the clayey subsoil is a severe limitation to use as septic tank absorption fields. This limitation can be partly overcome by installing larger than average absorption fields.

This Wilcox soil is in capability subclass VIe and in woodland suitability group 3c2.

WcF—Wilcox silty clay loam, 15 to 35 percent slopes. This deep, somewhat poorly drained, moderately steep to steep soil is on hillsides on uplands. This soil formed in an acid, clayey material underlain by shale.

Typically, the surface layer is brown silty clay loam to a depth of about 5 inches. The subsoil is clay mottled in shades of brown, red, and gray to a depth of about 41 inches. The underlying material is weathered shale to a depth of 50 inches or more.

This slightly eroded soil has a few rills. In a few areas, evidence of accelerated erosion is in the surface layer but not enough to greatly modify the thickness and character of the original plow layer.

This Wilcox soil ranges from extremely acid to strongly acid throughout except in areas where the surface layer has been limed. Permeability is very slow, and the available water capacity is high. Runoff is rapid. Erosion is a severe hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet during wet periods.

Included with this soil in mapping are a few small areas of Smithdale and Sweatman soils on uplands. These soils are well drained. Also included is a soil that is similar to Wilcox soil but does not have grayish mottles in the upper part of the subsoil. This soil is on uplands.

Most of the acreage of this Wilcox soil is used as woodland. A small acreage is used for cultivated crops or pasture.

This soil is poorly suited to row crops and small grains. Steepness of slope, rapid runoff, and severe hazard of erosion are the main limitations for this use.

This soil is poorly suited to grasses and legumes for hay or pasture because of low productivity. Permanent vegetation of grasses and legumes or trees should be maintained on this soil.

This soil is moderately suited to loblolly pine, slash pine, and shortleaf pine. Seasonal wetness and the clayey texture of the surface layer are the main limitations to use of equipment in woodland management. These limitations can be partly overcome by logging during the drier periods. Erosion is a slight hazard, plant competition is slight, and seedling mortality is moderate.

Wetness, high shrink-swell potential, and steepness of slope of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. The very slow permeability of the clayey subsoil, wetness, and steepness of slope are severe limitations to use as septic tank absorption fields.

This Wilcox soil is in capability subclass VIIe and in woodland suitability group 3c2.

WD—Wilcox silty clay loam, rolling. This deep, somewhat poorly drained soil is on uplands. This soil formed in an acid, clayey material underlain by shale. The landscape mainly consists of rolling hillsides and some gently rolling ridgetops and hillsides. Mapped areas range from 100 to about 300 acres. The slope ranges from 5 to 12 percent.

Wilcox soil and soils that are similar make up about 75 percent of the map unit. Typically, the surface layer is dark grayish brown silty clay loam to a depth of about 6 inches. The subsoil is yellowish red silty clay that has grayish mottles to a depth of 12 inches. Below that, it is silty clay mottled in shades of brown, gray, and red to a depth of about 42 inches. The underlying material is weathered shale to a depth of about 60 inches or more.

This Wilcox soil is extremely acid to strongly acid throughout. Permeability is very slow, and the available water capacity is high. Runoff is rapid. Erosion is a severe hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet during wet periods.

Included with this soil in mapping are Falkner and Sweatman soils. Falkner soils are somewhat poorly drained. They are on gently rolling ridgetops on uplands. Sweatman soils are well drained. These soils are on upland hillsides. Also included are soils on a few short hillsides on uplands that have slope of more than 15 percent.

Most of the acreage of this Wilcox soil is used as woodland.

This soil is poorly suited to row crops and small grains because of the steepness of slope, rapid runoff, and severe hazard of erosion. Permanent vegetation of grasses and legumes or trees should be maintained on this soil.

This soil is moderately suited to grasses and legumes for hay or pasture. Proper stocking, controlled grazing, and weed and brush control help keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, slash pine, and shortleaf pine. Seasonal wetness and the clayey texture of the surface layer are the main limitations to use of equipment in woodland management. These limitations can be partly overcome by logging during the drier periods. Erosion is a slight hazard, plant competition is slight, and seedling mortality is moderate.

Wetness and the high shrink-swell potential of this soil are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. However, special design and proper installation can partly overcome these limitations. The very slow permeability of the clayey subsoil is a severe limitation to use as septic tank absorption fields. This limitation can be partly overcome by installing larger than average absorption fields.

This Wilcox soil is in capability subclass VIe and in woodland suitability group 3c2.

WF—Wilcox-Falkner association, undulating. This map unit consists of deep, somewhat poorly drained soils on the broad flats and the gently sloping hillsides. These soils formed in an acid, clayey material underlain by shale and in a mantle of silty material and the underlying clayey deposits. The Wilcox and Falkner soils are in a regular and repeating pattern. Individual areas of these soils are large enough to map separately, but because of similar present and expected uses, they were mapped as an association. The Wilcox soil mainly is on the gently sloping hillsides adjacent to the broad flats. The Falkner soil is on broad flats and on the upper part of some of the hillsides. Mapped areas of these soils are mainly wooded, and they range from 100 to about 500 acres. The slope ranges from 0 to 5 percent.

Wilcox soil makes up about 54 percent of the map unit. This soil has slope that ranges from 1 to 5 percent. Typically, the surface layer is brown silty clay loam to a depth of about 4 inches. The subsoil is dark brown silty clay mottled in shades of red and gray to a depth of 8 inches. Below that, to a depth of about 40 inches, is silty clay mottled in shades of red, brown, and gray. The underlying material, to a depth of about 51 inches, is clay mottled in shades of gray and brown. Below that is light brownish gray shale mottled in shades of brown to a depth of about 60 inches or more.

This Wilcox soil is extremely acid to strongly acid throughout. Permeability is very slow, and the available water capacity is high. Runoff is medium. Erosion is a moderate hazard. The seasonal high water table is at a depth of 1 1/2 to 3 feet during wet periods. The surface layer is hard when dry. If tilled when the soil is too wet or too dry, clods tend to form. The optimum range of moisture content for tilling this soil is narrow. The soil shrinks and cracks during dry periods.

The Falkner soil makes up about 37 percent of the map unit. Typically the surface layer is very dark grayish brown silt loam to a depth of about 4 inches. The upper part of the subsoil is brown silty clay loam to a depth of 9 inches. The next layer is silty clay loam mottled in shades of brown and gray to a depth of 20 inches. The layer below that, to a depth of 33 inches, is silty clay mottled in shades of gray and brown. The lower part of the subsoil to a depth of about 60 inches or more is light brownish gray silty clay mottled in shades of brown and red.

This Falkner soil is very strongly acid or strongly acid throughout. Permeability is moderately slow in the upper part of the subsoil and slow in the lower part. The available water capacity is high. Runoff is slow or medium. Erosion is a moderate hazard. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet during wet periods. The surface layer is friable and is easily tilled throughout a wide range of moisture content. This soil tends to crust and pack after heavy rains if no residue is left on the surface.

Included in mapping are small areas of Savannah and Urbo soils. Savannah soils are moderately well drained. They are in slightly higher areas on the uplands. Urbo soils are somewhat poorly drained. They are on the narrow flood plains. Also included are soils in a few upland areas that have slope that ranges from 0 to 8 percent. The included soils make up about 9 percent of the map unit.

Most of the acreage of this map unit is used as woodland.

Wilcox soil is moderately suited to cotton, corn, soybeans, and small grains. Falkner soil is well suited to these crops. If the soils are used for cultivated crops, good managment practices, such as conservation tillage, returning crop residue to the soil, contour farming, contour stripcropping, terraces, grassed waterways, and crop rotation that includes grasses and legumes, are needed on the gently sloping areas to reduce runoff and help control erosion.

The Wilcox soil is moderately suited to grasses and legumes for hay or pasture. Falkner soil is well suited to these uses. Proper stocking, controlled grazing, and weed and brush control help keep the soil and pasture in good condition.

The Wilcox soil is moderately suited to loblolly pine, shortleaf pine, and slash pine. Seasonal wetness and the clayey texture of the surface layer are moderate limitations to use of equipment in woodland management. These limitations can be partly overcome by harvesting during the drier periods. Erosion is a slight hazard, plant competition is slight, and seedling mortality is moderate. The Falkner soil is well suited to loblolly pine, shortleaf pine, cherrybark oak, and sweetgum. Plant competition is moderate. Wetness is a moderate limitation to use of equipment. This limitation can be partly overcome by harvesting during the drier periods.

Wetness and the high shrink-swell potential of the Wilcox and Falkner soils are severe limitations for most urban uses. Low strength is a severe limitation for local roads and streets. Special design, proper installation, and removal of surface water can help to overcome these limitations. Wetness and the very slow permeability of the clayey subsoil are severe limitations to use as septic tank absorption fields, but these limitations can be partly overcome by installing larger than average absorption fields.

This Wilcox soil is in capability subclass IIIe and in woodland suitability group 3c2. The Falkner soil is in capability subclass IIw and in woodland suitability group 2w8.

Prime Farmland

In this section, prime farmland is defined and discussed, and the prime farmland soils in Noxubee County are listed in table 5.

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, state, and federal levels, as well as individuals, must encourage and facilitate the wise use of our nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to producing food, feed, forage, fiber, and oilseed crops. Such soils have properties that are favorable for the economic production of sustained high yields of crops. The soils need only to be treated and managed using acceptable farming methods. The moisture supply, of course, must be adequate, and the growing season has to be sufficiently long. Prime farmland soils produce the highest yields with minimal inputs of energy and economic resources. Farming these soils results in the least damage to the environment.

Prime farmland soils may presently be in use as cropland, pasture, or woodland, or they may be in other uses. They either are used for producing food or fiber or are available for these uses. Urban or built-up land and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water control structures.

Prime farmland soils usually get an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable. The acidity or alkalinity level of the soils is acceptable. The soils have few or no rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods and are not subject to frequent flooding during the growing season. The slope ranges mainly from 0 to 5 percent. For more detailed information on the criteria for prime farmland, consult the local staff of the Soil Conservation Service.

About 325,672 acres in Noxubee County, or about 73 percent of the county, meets the requirements for prime farmland. These areas of prime farmland are scattered throughout the county. They are mainly in map units 1, 2, 3, 4, 5, 7, 9, 11, and 12 of the general soil map. Approximately 150,000 acres of this prime farmland is used for crops. The main crops grown are soybeans, wheat, hay, and corn, and most of the county's total agricultural income each year is derived from these crops.

A recent trend in land use in some parts of the county has been the conversion of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, or difficult to cultivate, and usually less productive than prime farmland.

The map units that make up prime farmland in Noxubee County are listed in table 5. This list does not constitute a recommendation for a particular land use. The location of each map unit is shown on the detailed soil maps at the back of this publication. The extent of each map unit is given in table 4. The soil qualities that affect use and management are described in the section "Detailed Soil Map Units."

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern that is in harmony with nature.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

James S. Parkman, conservation agronomist, Soil Conservation Service, helped prepare this section.

The main concerns in management in the use of soils for crops and pasture are described in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Soil Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are presented for each soil.

This section provides information about the overall agricultural potential of the survey area and about the management practices that are needed. The information is useful to equipment dealers, land improvement contractors, fertilizer companies, processing companies, planners, land users, conservationists, and others. Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Detailed Soil Map Units." Specific information can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

In the early 1970's, the principal agricultural enterprise in Noxubee County was cattle. A high percentage of the land was used as permanent pasture. In 1980, about 36 percent of the land in the county was used for row crops. The main crops were soybeans, grain sorghum, corn, and small grains. Soil erosion is the main concern in cropland management. In areas where the slope is more than 2 percent, erosion is a hazard, such as on Falkner, Freest, Kipling, Oktibbeha, Prentiss, Ruston, Savannah, Sumter, Vaiden, and Wilcox soils.

Loss of the topsoil by erosion is damaging for two reasons. First, productivity is reduced as the surface layer is lost and part of the subsoil layer gradually is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a clayey subsoil, such as on Brooksville, Falkner, Kipling, Okolona, Oktibbeha, Sumter, and Vaiden soils. Productivity is also reduced on soils that have a layer in or below the subsoil that limits the depth of the root zone. Such a layer includes a fragipan, as in the Prentiss and Savannah soils, or includes bedrock, as in Binnsville, Demopolis, or Sumter soils. Second, soil erosion on farmland results in sedimentation of streams. Control of erosion minimizes pollution of streams by sediment and improves the quality of water for municipal use, for recreation, for fish, and for habitat for wildlife.

In many sloping fields, tilling and preparing a good seedbed are difficult on clayey or hardpan spots because the original, friable surface soil has been eroded away.

Erosion control provides protective surface cover, reduces runoff, and increases infiltration. A cropping system that keeps plant cover on the soil for extended

periods holds soil erosion losses to amounts that will not reduce the productive capacity of the soil. On livestock farms, the legume and grass forage crops incorporated into the cropping system reduce erosion, provide nitrogen, and improve the condition of the soil for the crops that follow in the rotation.

Mechanical practices for slowing runoff and increasing infiltration are needed on many soils that have slope of 2 to 8 percent. Contouring or terracing is difficult on soils that have slopes that are short and irregular, such as on Cahaba, Falkner, Freest, Kipling, Oktibbeha, Ruston, Savannah, Sumter, Vaiden, and Wilcox soils. These soils need a cropping system that provides substantial plant cover for extended periods to control erosion. Minimizing tillage and leaving crop residue on the surface increase infiltration and reduce runoff and the hazard of erosion. These practices can be adapted to most soils in the survey area, but they are more difficult to use successfully on eroded soils, on excessively wet soils, and on soils that have a clayey surface, such as Brooksville, Falkner, Kipling, Okolona, Sumter, and Vaiden soils. No-till farming of corn and soybeans is on the increase. This practice is very effective in reducing erosion and can be adapted to most soils in the survey area. No-till farming is more difficult to practice on soils that are naturally wet, have a clayey surface layer, or are severely eroded.

Terraces and diversions help control runoff. They also reduce the length of slope and reduce erosion. They are less practical on deep, well drained soils that do not have excessively long slopes. Soils that have irregular slopes, excessive wetness, a clayey subsoil that would be exposed after construction, or bedrock at a depth of less than 40 inches are not well suited to terraces or diversions.

Information for the design, layout, and construction of erosion control structures for each kind of soil in Noxubee County is available from the local office of the Soil Conservation Service.

If clean tilling is used continuously, organic matter will be reduced; plant nutrients will be removed; and compaction of the soil, crusting of the surface layer, and erosion will be increased. Cropping and tillage management systems are needed to maintain an acceptable level of organic matter, to maintain or increase soil fertility and tilth, and to control erosion.

Consideration should be given to the use of crop management and to tillage systems that include crop rotation, return of crop residue to the soil, conservation tillage, and fertilizing and liming of the soil. Such management systems should also include the use of erosion control practices, such as contouring, establishing vegetated waterways, maintaining strips of vegetation around the edges of fields, terracing, contour stripcropping, and reducing tillage. The use of erosion control practices is determined by the severity of the problem, depending on the kind of soil and the length and gradient of the slope.

Crop residue should be shredded after harvest and left on the soil surface until time to prepare the land for the next crop. If the soil is subject to flooding, the residue should be left standing, but if this is not possible, as with soybeans, the residue should be lightly disked to help hold the mulch in place. The need for fertilizer varies with different soils and crops. Soil tests are very helpful in determining the correct amount and the kind of fertilizer to use.

Additional information on crop production and management is available from the Mississippi Cooperative Extension Service and the Mississippi Agricultural and Forestry Experiment Station. On such soils as Belden, Leeper, Mantachie, and Urbo soils, surface drainage and internal drainage is a concern in management. Drainage mains and laterals that have field ditches are needed. Diversions also are needed in some places to protect the bottom land from receiving excess water from adjacent high areas.

On such gently sloping soils as Falkner, Freest, Kipling, Oktibbeha, Prentiss, Ruston, Savannah, Sumter, Vaiden, and Wilcox soils, contour cultivation with terraces, reduced tillage, and proper use of crop residue may be needed to control soil erosion. On steeper soils where erosion is severe, such as on Kipling, Oktibbeha, Savannah, Smithdale, Vaiden, and Wilcox soils, the use of minimum tillage or no tillage and proper use of residue is needed if the land is to remain in row crops. Very steep, hilly, or severely eroded soils should be used as pasture or woodland.

A combination of adapted perennial grasses and legumes for production of high quality forage should be established on soils that are used for pasture. Many perennial grasses, such as common bermudagrass, bahiagrass, coastal bermudagrass, dallisgrass, and tall fescue, are suited to different soils. Legumes that are well suited to different soils are white clover, crimson clover, black medic, wild winter peas, annual lespedeza, and sericea lespedeza.

Certain grasses and legumes are better suited to some soils than to others. Contact the local office of the Soil Conservation Service for detailed information about pasture plants best suited to the soils on your farm.

The production of quality forage involves more than planting the correct plants. All forage plants, like other crops, require certain management practices for best results. Regular application of fertilizer and lime is profitable and is needed for quality forage production.

The amounts and kinds of fertilizer to be applied to the soil should be determined by soil tests. Grazing should be regulated by stocking at a rate that will maintain a 3- to 5-inch top growth on forage plants during the growing season. Rotation grazing provides a rest period of 3 to 5 weeks. This allows sufficient top growth to develop on

the plants, helps to maintain a better root system, and keeps a good, dense sod on the land.

The forage production system provides forage the year round or for as long as possible. This can be done by use of a cool-season grass, such as tall fescue, in the summer pasture and also by use of winter legumes in the summer pasture. In addition, annual plants, such as small grains or ryegrass, can be planted as temporary pasture or can be seeded in the perennial grass sod.

Yields Per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that insures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 6 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Soil Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for use as cropland. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland and for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit. Only class and subclass are used in this survey. These levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode, but they have other limitations, impractical to remove, that limit their use. No soils in class V are recognized in Noxubee County.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w,* or *s,* to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless a close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony.

There are no subclasses in class I because the soils of this class have few limitations.

The acreage of soils in each capability class and subclass is shown in table 7. The capability classification of each map unit is given in the section "Detailed Soil Map Units."

Woodland Management and Productivity

W. A. Hannaford and Joseph V. Zary, foresters, Soil Conservation Service, helped prepare this section.

Approximately 183,600 acres, or 41 percent, of Noxubee County is classified as commercial forest *(13)*. Farmers own about 26,200 acres of the commerical forest land; other private owners, about 88,000 acres;

the forest industry, about 54,000 acres; and public owners, about 15,400 acres *(13)*.

The commercial forest can be subdivided into forest types. Such types have distinct individuality that can require separate management and treatment. Types are based on species, composition, site quality, or age *(6, 8)*. These forest types are named for the tree species which predominate or which are in greater abundance and frequency.

The *loblolly-shortleaf pine* forest type includes forests in which 50 percent or more of the stand is southern yellow pine and loblolly or shortleaf pine, singly or in combination. Common associates include oak, hickory, and gum. In 1977, the loblolly-shortleaf pine forest type occupied approximately 70,200 acres of the woodland throughout the county *(13, 14)*.

The *oak-gum-cypress* forest type includes bottom land and forests in which 50 percent or more of the stand is tupelo, blackgum, sweetgum, oak, or southern cypress, singly or in combination. If pines make up 25 to 49 percent of the stand, it is classified oak-pine forest type. Common associates include cottonwood, willow, ash, elm, hackberry, and maple. In 1977, the oak-gum-cypress forest type occupied about 48,600 acres in the county *(13, 14)*.

The *oak-hickory* forest type includes forests in which 50 percent or more of the stand is upland oaks or hickory, singly or in combination. If pines make up 25 to 49 percent of the stand, it is classified oak-pine forest type. Common associates include yellow-poplar, elm, maple, and black walnut. In 1977, the oak-hickory forest type occupied about 37,800 acres in the county *(13, 14)*.

The *oak-pine* forest type includes forests in which 50 percent or more of the stand is hardwoods, generally upland oaks, and 25 to 49 percent is southern pines. Common associates include sweetgum, blackgum, hickory, and yellow-poplar. In 1977, the oak-pine forest type occupied about 27,000 acres throughout the county *(13, 14)*.

The *loblolly-shortleaf, oak-hickory, and oak-pine* forest types generally are on most slopes and ridges throughout the county. The oak-hickory forest type and the oak components of the oak-pine forest type are in upland topographic positions, the oak and hickory trees generally are referred to as upland hardwoods.

In terms of cubic feet of growing stock, board feet of sawtimber, distribution, and acreages which they occupy, individual or combined species would rate in the following order: loblolly pine, shortleaf pine, white oak, red oak, hickory, sweetgum, elm, sugarberry, ash, tupelo, yellow-poplar, red maple, and sycamore *(10, 11)*.

In 1977, the woodlands of Noxubee County supported a total of 841.2 million board feet of sawtimber of which 602.1 million board feet was softwood, mostly pine, and 239.1 million board feet was hardwood *(13)*. The hardwood volume included 125.6 million board feet of oak, 25.6 million board feet of gum, and 87.9 million board feet of other hardwoods.

Also, in 1977, the growing stock of all species totaled 209.9 million cubic feet of which 124.3 million cubic feet was softwood, mostly pine, and 85.6 million cubic feet was hardwood. The hardwood volume included 44.1 million cubic feet of oak, 8.7 million cubic feet of gum, and 32.8 million cubic feet of other hardwoods. Woodlands of Noxubee County yielded 2,935,000 cords of the growing stock of all species. This volume included 1,657,000 cords of softwood, mostly pine, and 1,278,000 cords of hardwood. The hardwood volume included 658,000 cords of oak, 130,000 cords of gum, and 490,000 cords of other hardwoods.

Good forest management should maintain or enhance soil productivity and water quality. Forest management activities that have the greatest potential to adversely affect soil productivity and water quality are timber harvesting and site preparation for future tree crops. Poor application of these practices causes erosion, nutrient depletion, and compaction. Site specific forest management prescriptions that consider topography, hazard of erosion, time, and natural site fertility prevent damage to soil and water resources.

The potential productivity of pine trees on somewhat poorly drained soils, such as Wilcox and Falkner soils, and on poorly drained soils, such as Vimville soil, can be increased by providing adequate surface drainage. Constructing beds to align with natural drainage improves surface drainage.

In addition to furnishing raw material for the wood-using industries and affording employment for hundreds of industrial workers, the commercial forest land of Noxubee County provides food and shelter for wildlife, and it provides areas for recreational use. Moreover, this forest land provides watershed protection, helps control soil erosion, reduces sedimentation, enhances the quality and value of water resources, and furnishes a limited amount of native forage for domestic livestock.

Table 8 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination symbol (woodland suitability) for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for important trees. The number 1 indicates very high productivity; 2, high; 3, moderately high; and 4, moderate.

The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *w* indicates excessive water in or on the soil; *d*, restricted root depth; *c*, clay in the upper part of the soil; *s*, sandy texture; and *r*, steep slopes. The letter *o* indicates that limitations or

restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: w, d, c, s, and r.

The third part of the symbol, a number, indicates the kind of trees for which the soils in a group are best suited and also the severity of the limitation. The numbers 1, 2, and 3 indicate slight, moderate, and severe limitations, respectively, and suitability for needle-leaved trees; 4, 5, and 6, slight, moderate, and severe limitations, respectively, and suitability for broad-leaved trees; and 7, 8, and 9, slight, moderate, and severe limitations, respectively, and suitability for both needle-leaved and broad-leaved trees.

The fourth part of the symbol, a letter, indicates the specific nature of an additional kind of soil limitation. In Noxubee County, the letter "c" indicates that part or all of the soil's root zone is calcareous. A calcareous root zone severely limits the choice of adapted trees to plant. Trees that survive on soils that have a calcareous root zone and poorly suited to use as commercial trees because of low productivity.

In table 8, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Ratings of the *erosion hazard* indicate the risk of loss of soil in a well-managed woodland. The risk is *slight* if the expected soil loss is small, *moderate* if measures are needed to control erosion during logging and road construction, and *severe* if intensive management or special equipment and methods are needed to prevent excessive loss of soil.

Ratings of *equipment limitation* reflect the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. A rating of *slight* indicates that use of equipment is not limited to a particular kind of equipment or time of year; *moderate* indicates a short seasonal limitation or a need for some modification in management or in equipment; and *severe* indicates a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings indicate the degree to which the soil affects the mortality of tree seedlings. Plant competition is not considered in the ratings. The ratings apply to seedlings from good stock that are properly planted during a period of sufficient rainfall. A rating of *slight* indicates that the expected mortality is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

Ratings of *windthrow hazard* are based on soil characteristics that affect the development of tree roots and the ability of the soil to hold trees firmly. A rating of *slight* indicates that few trees may be blown down by strong winds; *moderate*, that some trees will be blown down during periods of excessive soil wetness and strong winds; and *severe*, that many trees are blown down during periods of excessive soil wetness and moderate or strong winds.

Ratings of *plant competition* indicate the degree to which undesirable plants are expected to invade where there are openings in the tree canopy. The invading plants compete with native plants or planted seedlings. A rating of *slight* indicates little or no competition from other plants; *moderate* indicates that plant competition is expected to hinder the development of a fully stocked stand of desirable trees; *severe* indicates that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed to control undesirable plants.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index*. This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Trees to plant are those that are suited to the soils and to commercial wood production.

Woodland Understory Vegetation

David W. Sanders, grassland conservationist, Soil Conservation Service, helped prepare this section.

Understory vegetation consists of grasses, forbs, shrubs, and other plants. Some woodland, if well managed, can produce enough understory vegetation to support grazing of livestock or wildlife, or both, without damage to the trees.

The quantity and quality of understory vegetation vary with the kind of soil, the age and kind of trees in the canopy, the density of the canopy, and the depth and condition of the litter. The density of the canopy determines the amount of light that understory plants receive.

Table 9 shows, for each soil suitable for woodland use, the potential for producing understory vegetation. The total production of understory vegetation includes the herbaceous plants and the leaves, twigs, and fruit of woody plants up to a height of 4 1/2 feet. It is expressed in pounds per acre of air-dry vegetation in a normal year.

Table 9 also lists the common names of the characteristic vegetation on each soil and the percentage composition, by air-dry weight, of each kind of plant. The table shows the kind and percentage of understory plants expected under a canopy density that is most nearly typical of woodland in which the production of wood crops is highest.

Recreation

In table 10, the soils of the survey area are rated according to the limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 10, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 10 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 13 and interpretations for dwellings without basements and for local roads and streets in table 12.

Camp areas require site preparation such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have gentle slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes, stones, or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Harvey G. Huffstatler, biologist, Soil Conservation Service, helped prepare this section.

Because of the wide variety of habitat for wildlife, most species of farm game and many species of nongame wildlife that are native to Mississippi are generally inhabitants of Noxubee County. The county supports extensive deer and turkey populations mainly because of the large land holdings and excellent habitat.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 11, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, wildlife enhancement on privately-owned land, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult

and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, and flood hazard. Examples of grain and seed crops are corn, grain sorghum, millet, wheat, oats, cowpeas, soybeans, and sunflowers.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, flood hazard, and slope. Examples of grasses and legumes are fescue, lespedeza, chufa, crownvetch, clover, and ryegrass.

Wild herbaceous plants are native or naturally established grasses and forbs. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, and flood hazard. Examples of wild herbaceous plants are bluestem, indiangrass, goldenrod, beggarweed, pokeweed, partridge pea, fescue, woolly croton, spurge, and ragweed.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage that wildlife eat. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, the available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, maple, persimmon, sassafras, sumac, hazelnut, hawthorn, dogwood, hickory, blackberry, black walnut, grape, blackhaw, honeysuckle, and briers. Examples of fruit-producing shrubs that are commercially available and suitable for planting on soils rated *good* are autumn-olive, hazelnut, and crabapple.

Coniferous plants are cone-bearing plants that furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine and redcedar.

Wetland plants are annual and perennial, wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, and slope. Examples of wetland plants are smartweed, wild millet, rushes, sedges, and cattail.

Shallow water areas are bodies of water that have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures in marshes or streams. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, slope, and permeability. Examples of shallow water areas are muskrat marshes, waterfowl feeding areas, wildlife watering developments, beaver ponds, and other ponds.

The habitat in Noxubee County for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, grassland, and other areas that are overgrown with grasses, herbs, shrubs, and vines. These areas, including both native and introduced plants, produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bobwhite quail, dove, meadowlark, field sparrow, cottontail, fox, hawks, and rodents.

Habitat for woodland wildlife consists of areas of deciduous plants (hardwoods) or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, owls, woodcock, bobcats, woodpeckers, squirrels, raccoon, deer, and numerous songbirds.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are fish, ducks, geese, herons, shore birds, muskrat, otter, and beaver. The Tombigbee River and Noxubee River flood plains provide fine habitat for most wetland wildlife species.

Engineering

Jimmy R. Crouch, agricultural engineer, Soil Conservation Service, helped prepare this section.

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations must be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to: evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 12 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. A high water table, depth to bedrock, large stones, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 to 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost-action potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 13 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations

are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Table 13 also shows the suitability of the soils for use as daily cover for landfills. A rating of *good* indicates that soil properties and site features are favorable for the use and that good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, flooding, and depth to bedrock or to a firm, dense layer affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds (fig. 13) constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 13 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, flooding, large stones, organic matter content, and depth to bedrock or to a firm, dense layer.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope and bedrock can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground water pollution. Ease of excavation and revegetation needs to be considered.

The ratings in table 13 are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, slope, flooding and depth to bedrock or to a firm, dense layer affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench type landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area type sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock or the water table to permit revegetation. The soil material used as final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Figure 13.—An animal waste treatment lagoon on Vaiden silty clay, 2 to 5 percent slopes, eroded.

Construction Materials

Table 14 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a probable or improbable source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability

of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. Sand and gravel are used in many kinds of construction. Specifications for each use vary widely. In table 14, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 15 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives the restrictive features that affect each soil for drainage, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment (fig. 14). Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil

Figure 14.—Backwater from the Aliceville Lock and Dam on the Tennessee-Tombigbee Waterway. This reservoir in an area of Urbo-Mantachie association, occasionally flooded, is well suited to recreational uses.

material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, or sulfur. Availability of drainage outlets is not considered in the ratings.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to reduce erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics. These results are reported in table 20.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 16 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil Series and Their Morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20, or higher, for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in table 20.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area, or from nearby areas, and on field examination.

Physical and Chemical Properties

Table 17 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage in each major soil layer is stated in inches of water per inch of soil. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion. Losses are expressed in tons per acre per year. These estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur over a sustained period without affecting crop productivity. The rate is expressed in tons per acre per year.

Organic matter is the plant and animal residue in the soil at various stages of decomposition.

In table 17, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter of a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Soil and Water Features

Table 18 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils are assigned to one of four groups. They are grouped according to the intake of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes. Water standing for short periods after rainfall or snowmelt is not considered flooding, nor is water in swamps and marshes.

Table 18 gives the frequency and duration of flooding and the time of year when flooding is most likely to occur.

Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, common, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *common* that it is likely under normal conditions; *occasional* that it occurs, on the average, no more than once in 2 years; and *frequent* that it occurs, on the average, more than once in 2 years. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, and *long* if more than 7 days. Probable dates are expressed in months; November-May, for example, means that flooding can occur during the period November through May.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and absence of distinctive horizons that form in soils that are not subject to flooding.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in table 18 are the depth to the seasonal high water table; the kind of water table—that is, perched, artesian, or apparent; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in table 18.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. An *artesian* water table is under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Only saturated zones within a depth of about 6 feet are indicated. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. The first numeral in the range indicates how high the water rises above the surface. The second numeral indicates the depth below the surface.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or

weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors creates a severely corrosive environment. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and the amount of sulfates in the saturation extract.

Physical and Chemical Analyses of Selected Soils

D. E. Pettry, professor, Soil Science, Mississippi State University, prepared this section.

The results of physical and chemical analyses of three typical pedons in the survey area are given in table 19. There is additional data already published for two pedons of the Wilcox series *(9)*. The data are for soils sampled at carefully selected sites. The pedons are typical of the series and are described in the section "Soil Series and Their Morphology." Soil samples were analyzed by the Soil Genesis and Morphology Laboratory of the Mississippi Agricultural and Forestry Experiment Station, Mississippi State University.

The physical properties of soils, such as infiltration rate and conduction, shrink-swell potential, crusting, consistence, and available water capacity, are closely related to soil texture (the percentage of sand, silt, and clay).

Soils which developed in the Blackland Prairie, such as Griffith and Sessum soils, are fine textured with a high content of expansive montmorillonitic clay. The clay content typically ranges from 40 to 60 percent with a higher clay content commonly occurring in the subsoil of Sessum soils.

The chemical properties of soils and other soil features, such as permeability, structure, and texture influence the limitations and potentials of any soil. Chemical properties are not evident in visual observations of a soil; laboratory analyses are necessary to define the characteristics. The amount and type of clay minerals present and the organic matter content largely control the chemical nature of soils. These substances have the capacity to attract and hold cations. Cations are elements that have a positive charge and that are bonded to clay minerals and organic matter that have a negative charge.

The exchangeable cations may be removed or exchanged through leaching or plant uptake. Through cation exchange, soil acidity can be corrected by liming. Neutralizing 1 milliequivalent per 100 grams of extractable acidity (hydrogen plus aluminum) requires application of 1,000 pounds of calcium carbonate (lime) per acre.

Soil chemical data are expressed as milliequivalents (meq) per 100 grams of dry soil. To use this data, convert milliequivalents per 100 grams of the various cations to pounds per acre for the plow layer. The plow layer, or topsoil, of average soils to a depth of 6.67 inches weighs about 2 million pounds per acre. The conversions for the cations listed in table 19 are as follows:

Calcium (Ca) meq/100 grams x 400 = pounds per acre; magnesium (Mg) meq/100 grams x 240 = pounds per acre; potassium (K) meq/100 grams x 780 = pounds per acre; sodium (Na) meq/100 grams x 460 = pounds per acre; hydrogen (H) meq/100 grams x 20 = pounds per acre.

Soils of Noxubee County differ drastically in their capacity to retain plant nutrients. Clayey, montmorillonitic soils of the Blackland Prairie section, such as Griffith and Sessum soils, have high cation exchange capacities.

The parent material of soils in the Blackland Prairie in the eastern part of the county have calcium carbonate content ranging from 50 to 85 percent. The principal exchangeable cation in soils in this area is calcium; however, the chalk is very low in magnesium. Soils that formed in it, such as Griffith soils, have a very low level of plant-available magnesium. The level of magnesium saturation is commonly below 2 percent, and crop response to magnesium fertilization is widespread.

The Soil Taxonomy classification system used in the National Cooperative Soil Survey uses chemical soil properties to differentiate some categories. The Alfisol and Ultisol orders, which are classes in the highest category in the system, are separated on the basis of the percentage of base saturation deep in the subsoil. Ultisols have base saturation of less than 35 percent in the lower part of the soil, whereas Alfisols have base saturation values greater than 35 percent. For example, Wilcox soils have base saturation levels greater than 35 percent below a depth of 4 feet and they are Alfisols.

Most determinations, except those for particle-size analysis, were made on soil material smaller than 2 millimeters in diameter. Measurements reported as percent or quantity of unit weight were calculated on an oven-dry basis. The particle-size analysis was by the hydrometer method of Day *(4)*. The methods used in obtaining the other data are indicated in the list that follows. The codes in parentheses refer to published methods *(15)*.

Organic matter—peroxide digestion (6A3).

Extractable cations—ammonium acetate pH 7.0, uncorrected; calcium (6N2), magnesium (602), sodium (6P2), potassium (6Q2).
Extractable acidity—barium chloride-triethanolamine I (6H1a).
Cation-exchange capacity—sum of cations (5A3a).
Base saturation—sum of cations, TEA, pH 8.2 (5C3).
Reaction (pH)—1:1 water dilution (8C1a).

Engineering Index Test Data

Table 20 shows laboratory test data for several pedons sampled at carefully selected sites in the survey area. The pedons are typical of the series and are described in the section "Soil Series and Their Morphology." The soil samples were tested by Bureau of Public Roads.

The testing methods generally are those of the American Association of State Highway and Transportation Officials (AASHTO) or the American Society for Testing and Materials (ASTM).

The tests and methods are: AASHTO classification—M 145 (AASHTO), D 3282 (ASTM); Unified classification—D 2487 (ASTM); Mechanical analysis—T 88 (AASHTO), D 2217 (ASTM); Liquid limit—T 89 (AASHTO), D 423 (ASTM); Plasticity index—T 90 (AASHTO), D 424 (ASTM); Moisture density, Method A—T 99 (AASHTO), D 698 (ASTM).

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(12)*. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or on laboratory measurements. Table 21 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Ten soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Vertisol.

SUBORDER. Each order is divided into suborders, primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udert (*Ud*, meaning humid, plus *ert*, from Vertisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Chromuderts (*Chrom*, meaning high chroma, plus *udert*, the suborder of the Vertisols that have an udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Chromuderts.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine, montmorillonitic, thermic Typic Chromuderts.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. There can be some variation in the texture of the surface layer or of the substratum within a series. Okolona series is an example of fine, montmorillonitic, thermic Typic Chromuderts in Noxubee County.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the *Soil Survey Manual (7)*. Many of the technical terms used in the descriptions are defined in *Soil Taxonomy (12)*. Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Belden Series

The Belden series consists of deep, somewhat poorly drained soils on nearly level flood plains. These soils formed in mixed alluvium that is high in silt content. Slopes range from 0 to 2 percent. The soils of the Belden series are fine-silty, mixed, nonacid, thermic Aeric Fluvaquents.

Belden soils are associated with the Marietta and Ochlockonee soils. Marietta soils, which are in adjacent or slightly higher flood plain areas, have a fine-loamy

control section. Ochlockonee soils, which are in higher flood plain areas, have a coarse-loamy control section that has bedding planes.

Typical pedon of Belden silt loam, frequently flooded; about 4 miles northwest of Gholson, 5,000 feet east of the Noxubee-Winston County line, 220 feet south of a gravel road; NE1/4SE1/4 sec. 19, T. 13 N., R. 15 E.

A—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam; few fine faint olive brown mottles; weak fine granular structure; friable; many fine and medium roots; reddish brown stains around some roots; medium acid; clear smooth boundary.

Bg1—6 to 15 inches; grayish brown (2.5Y 5/2) silt loam; common fine distinct dark yellowish brown and yellowish brown mottles; weak fine subangular blocky structure; friable; few fine and medium roots; medium acid; clear smooth boundary.

Bg2—15 to 23 inches; dark grayish brown (2.5Y 4/2) silt loam; few fine distinct olive brown and light brownish gray mottles; weak fine subangular blocky structure; friable; common fine roots; few partially decayed woody stems and grass; few fine pockets of very fine sandy loam; slightly acid; clear wavy boundary.

Bg3—23 to 40 inches; light brownish gray (2.5Y 6/2) loam; common fine faint light yellowish brown mottles; weak fine subangular blocky structure; firm; few fine roots; few partially decayed woody stems; few fine pockets of dark grayish brown silt loam; medium acid; gradual wavy boundary.

BC—40 to 53 inches; mottled yellowish brown (10YR 5/6), light brownish gray (10YR 6/2), and strong brown (7.5YR 4/6) loam; massive; firm; few fine roots; few fine flakes of mica; medium acid; gradual wavy boundary.

C—53 to 65 inches; mottled light brownish gray (2.5Y 6/2), yellowish brown (10YR 5/6), and very pale brown (10YR 7/4) loam; massive; firm; medium acid.

The thickness of the solum ranges from 45 to more than 60 inches. The A horizon ranges from medium acid to neutral. The upper part of the B horizon is medium acid or slightly acid. The lower part of the B horizon and the C horizon ranges from medium acid to neutral.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4.

The Bg1 horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 with mottles in shades of brown ranging from none to common; or the Bg1 horizon is mottled in shades of brown and gray. The Bg2 and Bg3 horizons have hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2. Mottles in shades of brown are few to many. The Bg1 and Bg2 horizons are silt loam or silty clay loam. The 10- to 40-inch particle-size control section commonly is 25 to 35 percent clay, 40 to 60 percent silt, and 5 to 25 percent sand, most of which is very fine sand. The Bg3 horizon is silt loam, silty clay loam, or loam.

The BC and C horizons, if present, are mottled in shades of brown and gray. Texture is silt loam or loam.

Binnsville Series

The Binnsville series consists of well drained, alkaline soils on uplands. These soils formed in material weathered from the Selma Chalk Formation. These soils are shallow to chalk. Slopes range from 2 to 8 percent. The soils of the Binnsville series are clayey, carbonatic, thermic, shallow Typic Rendolls.

Binnsville soils are associated with Demopolis and Okolona soils on similar landscapes. Demopolis soils, which are in adjacent upland areas, do not have a dark A horizon as the Binnsville soils and are less clayey. Okolona soils, which are in broader and less sloping upland areas, have a much thicker, dark A horizon and have intersecting slickensides within a depth of 40 inches.

Typical pedon of Binnsville silty clay loam, in an area of Demopolis-Binnsville complex, 2 to 8 percent slopes, eroded; about 1 mile south of the Noxubee County line and 30 feet west of U.S. Highway Alt. 45; SW1/4NE1/4 sec. 6, T. 16 N., R. 17 E.

Ap—0 to 5 inches; very dark gray (10YR 3/1) silty clay loam; moderate fine granular structure; friable, sticky; many fine roots; common wormcasts; moderately alkaline, calcareous; clear smooth boundary.

A—5 to 9 inches; very dark grayish brown (2.5Y 3/2) silty clay; many fine and medium faint dark brown (10YR 3/3) mottles; moderate fine granular structure; friable, plastic and sticky; common fine roots; common fine and medium light gray, soft fragments of chalk; common wormcasts; moderately alkaline, calcareous; clear wavy boundary.

C—9 to 16 inches; grayish brown (2.5Y 5/2) silty clay; massive; friable, plastic and sticky; common fine roots; few wormcasts; about 30 percent light gray (10YR 7/2) platy fragments of chalk with few fine and medium distinct splotches of yellow (2.5Y 8/6); moderately alkaline, calcareous; clear wavy boundary.

Cr—16 to 40 inches; light gray (10YR 7/2) chalk; few fine and medium distinct brownish yellow (10YR 6/8) spots and streaks; horizontal platy rock structure; can be dug with spade when moist; few fine roots and some soil stains between plates in upper part; moderately alkaline, calcareous.

Thickness of the soil over chalk ranges from 8 to 18 inches. Hardness of the chalk is 1 or 2 on Mohs scale. The chalk can be dug with a spade.

The A horizon has hue of 10YR, value of 3, and chroma 1 to 3 or hue of 2.5Y, value of 3, and chroma of 2; or it is neutral and has value of 3 and chroma of 0.

Texture is silty clay loam or silty clay. In some pedons the A horizon contains few or common, fine and medium, weathered chalk fragments.

The C horizon has hue of 10YR, 2.5Y, or 5Y, value of 5 or 6, and chroma of 2. Fine to coarse streaks and splotches in shades of yellow or brown are few or common. Texture is silty clay loam or silty clay with 10 to 30 percent chalk fragments, by volume.

The Cr horizon and chalk fragments in the C horizon have hue of 10YR, 2.5Y, or 5Y, value of 6 or 7, and chroma of 1 or 2. Fine to coarse streaks and splotches in shades of yellow or brown are few or common. This horizon is weathered chalk that can be dug with a spade when moist.

Brooksville Series

The Brooksville series consists of deep, somewhat poorly drained, nearly level and gently sloping soils on uplands. These soils formed in acid, clayey material and the underlying calcareous material. Slopes range from 0 to 3 percent. The soils of the Brooksville series are fine, montmorillonitic, thermic Aquic Chromuderts.

Brooksville soils are associated with Okolona and Vaiden soils on similar landscapes. These soils are in adjacent upland areas. Unlike Brooksville soils, Okolona soils do not have distinct or prominent reddish or brownish mottles within the upper 20 inches of the dark A horizon. Vaiden soils do not have a thick, dark A horizon and have more than 60 percent clay in the B horizon.

Typical pedon of Brooksville silty clay, 0 to 1 percent slopes; about 400 yards north of turnoff to Brooksville Experiment Station, 18 feet east of board fence near U.S. Highway 45, 30 feet south of crossfence; NW1/4NE1/4 sec. 9, T. 16 N., R. 17 E.

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silty clay; weak medium granular structure; friable, plastic and sticky; common fine roots; few fine brown and black concretions; slightly acid; clear smooth boundary.

A1—6 to 18 inches; very dark grayish brown (10YR 3/2) silty clay; weak coarse prismatic structure parting to moderate fine and medium angular blocky; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; few wormcasts; slightly acid; gradual smooth boundary.

A2—18 to 23 inches; very dark grayish brown (10YR 3/2) silty clay; few fine prominent yellowish red (5YR 4/8) and brown (7.5YR 4/4) mottles; weak coarse prismatic structure parting to moderate fine and medium angular blocky; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; slightly acid; gradual wavy boundary.

AC1—23 to 36 inches; dark grayish brown (2.5Y 4/2) silty clay; many fine prominent red (2.5YR 4/6) and common fine faint dark brown mottles; weak coarse prismatic structure parting to moderate fine and medium angular blocky; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; shiny pressure faces on some peds; few intersecting slickensides; neutral; gradual wavy boundary.

AC2—36 to 53 inches; mottled dark grayish brown (2.5Y 4/2), light olive brown (2.5Y 5/4), and red (2.5YR 4/6) clay; intersecting slickensides that form wedge-shaped natural fragments parting to moderate fine and medium angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; neutral; gradual wavy boundary.

C—53 to 67 inches; mottled light olive brown (2.5Y 5/4) and dark grayish brown (2.5Y 4/2) clay; intersecting slickensides that form coarse wedge-shaped natural fragments parting to moderate fine and medium angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; few fine to coarse calcium carbonate concretions; mildly alkaline; clear wavy boundary.

Thickness of the A and AC horizons ranges from 46 inches to more than 70 inches. Intersecting slickensides are at a depth of 21 to 38 inches. The A horizon ranges from strongly acid to slightly acid except in areas where the surface layer has been limed. The AC and C horizons range from neutral to moderately alkaline.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 2 or 3; or hue of 10YR, value of 3, and chroma of 1; or hue of 10YR or 2.5Y, value of 4, and chroma of 2; or hue of 2.5Y, value of 3, and chroma of 2 in the upper 12 inches in more than half of each pedon. Few to many distinct or prominent mottles of red, yellowish red, or dark yellowish brown are within 20 inches of the surface. Texture of the A2 horizon is silty clay or clay. The 10- to 40-inch control section contains 35 to 55 percent clay.

The AC and C horizons have hue of 2.5Y, value of 4 or 5, and chroma of 2 to 4; or hue of 10YR, value of 4, and chroma of 2 or are mottled in shades of these colors. Some pedons have reddish mottles in the AC horizon. The AC and C horizons have few to many brown and black concretions throughout and have few to many lime nodules in the lower part. Texture is silty clay or clay.

Cahaba Series

The Cahaba series consists of deep, well drained, nearly level soils on stream terraces. These soils formed in loamy material. The slopes range from 0 to 2 percent. The soils of the Cahaba series are fine-loamy, siliceous, thermic Typic Hapludults.

Cahaba soils are associated with Latonia and Prentiss soils. Latonia soils, which are in adjacent stream terrace

areas, have a browner and lighter textured subsoil than Cahaba soils. Prentiss soils, which are in lower lying stream terrace areas, have a coarse-loamy control section and have a fragipan.

Typical pedon of Cahaba fine sandy loam, 0 to 2 percent slopes; about 1 mile west of the Noxubee Wildlife Refuge headquarters road, 2,150 feet east of the Noxubee-Winston County line and 200 feet south of the Louisville road; SE1/4NW1/4 sec. 6, T. 16 N., R 15 E.

Ap—0 to 5 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; strongly acid; clear smooth boundary.

A—5 to 8 inches; brown (10YR 4/3) loam; weak fine granular structure; friable; common fine roots; few flakes of charcoal; strongly acid; gradual smooth boundary.

Bt1—8 to 17 inches; yellowish red (5YR 4/6) loam; moderate fine and medium subangular blocky structure; firm; few fine roots; patchy clay films on faces of peds; few wormcasts in upper part; very strongly acid; gradual smooth boundary.

Bt2—17 to 31 inches; red (2.5YR 4/6) loam; moderate fine and medium subangular blocky structure; firm; few fine roots; patchy clay films on faces of peds; strongly acid; gradual wavy boundary.

BC—31 to 38 inches; yellowish red (5YR 4/6) sandy loam; weak fine subangular blocky structure; friable; few fine roots; sand grains bridged and coated with oxides; strongly acid; gradual wavy boundary.

C1—38 to 62 inches; strong brown (7.5YR 5/8) sandy loam; common medium distinct very pale brown (10YR 7/3) and red (2.5YR 4/8) mottles; massive; very friable; strongly acid; gradual wavy boundary.

C2—62 to 80 inches; mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and pale brown (10YR 6/3) loamy sand; massive; very friable; few fine mica flakes; strongly acid.

The thickness of the solum ranges from 36 inches to 54 inches. The soils are very strongly acid or strongly acid throughout except in areas where the surface layer has been limed.

The A horizon has hue of 10YR, value of 3 or 4, and chroma 3 or 4.

The E horizon, if present, has hue of 10YR, value of 5 or 6, and chroma of 2 through 4.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. Texture is sandy clay loam or loam. The upper 20 inches is 18 to 35 percent clay and 20 to 48 percent silt.

The C horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 through 8. It may contain mottles in shades of brown, red, and gray. Texture is loamy sand, sandy loam, or fine sandy loam. Some pedons may contain up to 15 percent gravel.

Catalpa Series

The Catalpa series consists of deep, moderately well drained, nearly level soils on flood plains. These soils formed in clayey alluvium. Slopes range from 0 to 2 percent. The soils of the Catalpa series are fine, montmorillonitic, thermic Fluvaqentic Hapludolls.

Catalpa soils are associated with the Griffith, Leeper, and Marietta soils on similar landscapes. Griffith soils, which are generally in slightly higher flood plain areas, have a dark A horizon more than 24 inches thick. Leeper soils, which are in adjacent flood plain areas, are somewhat poorly drained and have a dark surface layer less than 10 inches thick. Marietta soils, which are on mixed, coastal plain and prairie flood plains, do not have a mollic epipedon and have a fine-loamy control section.

Typical pedon of Catalpa silty clay, occasionally flooded; about 1.5 miles northwest of Macon along a county road and 550 feet south of road; NW1/4NE1/4 sec. 30, T. 15 N. R. 17 E.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) silty clay; moderate fine and medium granular structure; friable, plastic and sticky; many fine roots; slightly acid; clear smooth boundary.

A—5 to 20 inches; very dark grayish brown (10YR 3/2) silty clay; weak coarse prismatic structure parting to moderate fine subangular and angular blocky; firm, plastic and sticky; common fine roots; few fine brown and black concretions; shiny pressure faces on some peds; neutral; gradual wavy boundary.

Bw1—20 to 27 inches; dark grayish brown (2.5Y 4/2) silty clay; common fine distinct dark brown (10YR 3/3) mottles; weak coarse prismatic structure parting to moderate fine and medium subangular and angular blocky; firm, very sticky and very plastic; few fine roots; few fine brown and black concretions; shiny pressure faces on some peds; neutral; gradual wavy boundary.

Bw2—27 to 38 inches; mottled dark grayish brown (2.5Y 4/2), light olive brown (2.5Y 5/4), and gray (10YR 5/1) silty clay; weak coarse prismatic structure parting to moderate fine and medium subangular and angular blocky; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; shiny pressure faces on some peds; mildly alkaline; gradual wavy boundary.

Bw3—38 to 51 inches; mottled dark gray (10YR 4/1), grayish brown (2.5Y 5/2), and light olive brown (2.5Y 5/6) silty clay; moderate fine angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; few fine lime concretions; shiny pressure faces on some peds; mildly alkaline; gradual wavy boundary.

Bw4—51 to 65 inches; mottled gray (10YR 5/1) and yellowish brown (10YR 5/4, 5/8) silty clay; moderate fine and medium angular blocky structure; firm, very

plastic and very sticky; few fine brown and black concretions; few fine and medium lime concretions; shiny pressure faces on some peds; moderately alkaline.

Thickness of the solum exceeds 60 inches. The soils range from slightly acid to moderately alkaline throughout. Some pedons are noncalcareous throughout. Lime concretions and brown and black concretions range from none to common.

The A horizon has hue of 10YR or 2.5Y, value of 3, and chroma of 2. Thickness of the A horizon ranges from 10 to 24 inches.

The upper part of the B horizon has hue of 10YR or 2.5Y, value of 4, and chroma of 2, or it is mottled in shades of brown and gray. Texture is silty clay or clay. The lower part of the B horizon is mottled in shades of brown and gray. Texture is silty clay or clay.

Demopolis Series

The Demopolis series consists of well drained soil on gently sloping to steep uplands. These soils formed in material weathered from the Selma Chalk Formation. They are shallow to chalk. Slopes range from 2 to 20 percent. The soils of the Demopolis series are loamy-skeletal, carbonatic, thermic, shallow Typic Udorthents.

Demopolis soils are associated with Binnsville and Sumter soils on similar landscapes. Binnsville soils, which are in adjacent upland areas, have a dark A horizon. Sumter soils, which are mostly in steeper upland areas, have a solum that is more than 20 inches thick.

Typical pedon of Demopolis silty clay loam, in an area of Demopolis-Binnsville complex, 2 to 8 percent slopes, eroded; about 300 yards northeast of the Black Belt Branch Experiment Station headquarters, 100 yards east of a gravel road, 200 feet south of a fence; NE1/4NE1/4 sec. 9, T. 16 N., R. 16 E.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine granular structure; friable, slightly plastic and sticky; many fine roots; common fine and medium chalk fragments; few fine lime concretions; moderately alkaline, calcareous; clear wavy boundary.

A—5 to 9 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium granular structure; friable, plastic and sticky; common fine roots; common fine and medium soft chalk fragments; few fine calcium carbonate concretions; moderately alkaline, calcareous; clear wavy boundary.

C—9 to 14 inches; light gray (2.5Y 7/2) weakly consolidated platy fragments of chalk 60 to 80 percent; and dark grayish brown (10YR 4/2) silty clay loam between plates and in cracks; few fine and medium pale yellow (2.5Y 7/4) and olive yellow (2.5Y 6/6) mottles; platy rock structure chalk and moderate fine granular soil material; few fine roots between plates in soil material; moderately alkaline, calcareous; clear wavy boundary.

Cr—14 to 40 inches; light gray (2.5Y 7/2) chalk; few fine and medium distinct streaks and splotches of pale yellow (2.5Y 7/4); horizontal platy rock structure; moderately alkaline, calcareous.

Thickness of the soil over chalk ranges from 4 to 15 inches. Hardness of the chalk ranges from 1 to 3 on Mohs scale. The chalk can be dug with some difficulty with a spade and marked with a fingernail when moist. The soils are mildly alkaline or moderately alkaline throughout.

The A horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 through 4. Chalk fragments range from 0 to about 25 percent, by volume.

The C and Cr horizons have hue of 10YR or 2.5Y, value of 5 through 7, and chroma of 1 or 2. Fine to coarse streaks and splotches in shades of yellow and brown are few or common. The C horizon is about 60 to 95 percent chalk fragments.

Falkner Series

The Falkner series consists of deep, somewhat poorly drained soils on level to gently sloping uplands. These soils formed in a mantle of silty material and in the underlying clayey marine deposits. Slopes range from 0 to 5 percent. The soils of the Falkner series are fine-silty, siliceous, thermic Aquic Paleudalfs.

Falkner soils are associated with Longview and Wilcox soils. The Longview soils, which are on adjacent upland flats, ridges, and hillsides, do not have a clayey 2Bt horizon and have interfingering of E material around Bt peds. The Wilcox soils, which are on adjacent upland ridges and hillsides, have a more clayey subsoil in the upper 20 inches.

Typical pedon of Falkner silt loam, level; about 2 miles east of the Winston County line, 20 feet south of Singleton Road, 30 feet east of turnoff road; NE1/4NE1/4 sec. 29, T. 16 N., R. 15 E.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; few wormcasts; strongly acid; clear smooth boundary.

Bt1—6 to 10 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; common fine roots; few fine brown and black concretions; few wormholes and rootholes filled with Ap material; few patchy clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—10 to 16 inches; yellowish brown (10YR 5/4) silt loam; common fine distinct pale brown and few fine faint light brownish gray mottles; moderate fine and medium subangular blocky structure; firm; few fine

roots; few fine brown and black concretions; patchy clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt3—16 to 21 inches; mottled yellowish brown (10YR 5/4), pale brown (10YR 6/3), yellowish red (5YR 4/6), and light brownish gray (10YR 6/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few fine roots; few fine brown and black concretions; patchy clay films on faces of peds; very strongly acid; clear wavy boundary.

2Btg—21 to 39 inches; light brownish gray (10YR 6/2) silty clay; many fine and medium distinct strong brown (7.5YR 5/6) and common fine and medium prominent yellowish red (5YR 4/6) mottles; strong fine and medium subangular blocky and angular blocky structure; firm, plastic and sticky; few fine roots; few fine brown and black concretions; patchy clay films on faces of peds; few small nonintersecting slickensides; very strongly acid; gradual wavy boundary.

2Bt—39 to 62 inches; mottled yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) silty clay; moderate medium subangular blocky and angular blocky structure; firm, plastic and sticky; few fine roots; few fine brown and black concretions; patchy clay films on faces of peds; few small nonintersecting slickensides; very strongly acid.

The upper part of solum is silty, and thickness ranges from 15 to 35 inches. The lower part of the solum is clayey to a depth of more than 60 inches. The A and Bt horizons are very strongly acid or strongly acid. The 2Bt horizon ranges from very strongly acid to slightly acid.

The A or Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Some pedons have brownish or grayish mottles.

The upper part of the Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 6. Some pedons contain grayish mottles. The lower part of the Bt horizon is similar in color to the matrix of the upper part of the Bt horizon and contains few to many grayish mottles, or it is mottled in shades of gray, brown, and red. Texture is silt loam or silty clay loam. The upper 20 inches of the Bt horizon is 20 to 35 percent clay.

The 2Btg and 2Bt horizons have hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2, or they are mottled in shades of gray, brown, and red. Texture is silty clay or clay.

Freest Series

The Freest series consists of deep, moderately well drained soils on nearly level and gently sloping uplands and stream terraces. These soils formed in sediment that is loamy in the upper part and clayey in the lower part. Slopes range from 0 to 5 percent. The soils of the Freest series are fine-loamy, siliceous, thermic Aquic Paleudalfs.

Freest soils are associated with Kipling and Quitman soils. Kipling soils, which are in adjacent upland areas, have a clayey control section and vertic properties throughout the solum. Quitman soils, which are in adjacent stream terrace areas, have a lower base saturation in the lower part of the subsoil.

Typical pedon of Freest fine sandy loam, 0 to 2 percent slopes; about 0.75 mile south of Shuqualak, 455 feet west of Alpa road, and 15 feet south of a field road; NE1/4NE1/4 sec. 20, T. 13 N., R. 17 E.

Ap—0 to 6 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; many fine roots; strongly acid; clear smooth boundary.

Bt1—6 to 12 inches; yellowish brown (10YR 5/6) loam; few fine and medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; thin patchy clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—12 to 18 inches; mottled yellowish brown (10YR 5/6), light brownish gray (10YR 6/2), and red (2.5YR 4/8) loam; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—18 to 28 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/6), and red (2.5YR 4/8) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; few fine pores; patchy clay films on faces of some peds; few pockets of uncoated sand grains; very strongly acid; gradual wavy boundary.

Bt4—28 to 48 inches; mottled light brownish gray (10YR 6/2), strong brown (7.5YR 5/8), and yellowish brown (10YR 5/4) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine and medium brown concretions; few fine pores; patchy clay films on faces of some peds; few pockets of uncoated sand grains; very strongly acid; gradual wavy boundary.

Bt5—48 to 70 inches; mottled light brownish gray (2.5Y 6/2), strong brown (7.5YR 5/8), and red (2.5YR 4/8) clay loam; moderate fine and medium angular and subangular blocky structure; firm, plastic and sticky; patchy clay films on faces of peds; fine sand grains on faces of some peds; strongly acid.

The thickness of the solum is more than 60 inches. The A horizon is very strongly acid or strongly acid except in areas that have been limed. The upper part of the Bt horizon ranges from very strongly acid to medium acid, and the lower part ranges from very strongly acid to neutral.

The A horizon has hue of 10YR, value of 4, and chroma of 2 or 3.

The Bt1 horizon has hue of 10YR, value of 5, and chroma of 4 to 6. If present mottles are in shades of gray or brown. Texture is loam or sandy clay loam. The layers below the Bt1 horizon are mottled in shades of gray, brown, and red. Texture is dominantly clay loam, but the Bt4 and Bt5 horizons in some pedons are silty clay or clay.

The upper 20 inches of the Bt horizon is 18 to 33 percent clay and more than 15 percent sand that is coarser than very fine.

Griffith Series

The Griffith series consists of deep, moderately well drained, nearly level soils on flood plains. These soils formed in clayey alluvium. Slopes range from 0 to 2 percent. The soils of the Griffith series are fine, montmorillonitic, thermic Vertic Haplaquolls.

Griffith soils are associated with Catalpa and Leeper soils. These soils generally are in slightly lower flood plain areas. Catalpa soils have a dark surface layer less than 24 inches thick. Leeper soils do not have a mollic epipedon.

Typical pedon of Griffith silty clay, occasionally flooded; about 2 miles north of Macon, 100 feet west of U.S. Highway 45, 60 feet west of light pole; SE1/4NE1/4 sec. 16, T. 15 N., R. 17 E.

Ap—0 to 6 inches; very dark grayish brown (2.5Y 3/2) silty clay; moderate medium granular structure; firm, very plastic; common fine roots; few fine brown and black concretions; mildly alkaline; clear wavy boundary.

A1—6 to 18 inches; black (10YR 2/1) silty clay; weak medium prismatic structure parting to moderate medium subangular blocky; firm, very plastic and very sticky; few fine roots; few fine calcium carbonate concretions; shiny faces on some peds; mildly alkaline; gradual wavy boundary.

A2—18 to 28 inches; very dark grayish brown (2.5Y 3/2) clay; weak medium prismatic structure parting to moderate medium angular blocky; firm, very plastic and very sticky; few fine roots; few fine calcium carbonate concretions; shiny faces on some peds; mildly alkaline; gradual wavy boundary.

AC1—28 to 42 inches; gray (5Y 4/1) clay; common fine faint olive (5Y 4/3) mottles; few coarse intersecting slickensides parting to fine blocky wedge-shaped fragments; firm, very plastic and very sticky; few fine roots; few fine calcium carbonate concretions; shiny faces on some peds; few intersecting slickensides; mildly alkaline; gradual wavy boundary.

AC2—42 to 56 inches; dark grayish brown (2.5Y 4/2) clay; common fine and medium faint olive (5Y 4/3) mottles; grooved intersecting slickensides parting to blocky fragments; firm, very plastic and very sticky; few fine roots; common fine and medium calcium carbonate concretions; shiny faces on some peds; mildly alkaline; gradual wavy boundary.

AC3—56 to 70 inches; dark grayish brown (2.5Y 4/2) clay; many fine and medium faint olive brown (2.5Y 4/4) mottles; moderate coarse grooved intersecting slickensides parting to coarse blocky fragments; firm, very plastic and very sticky; common fine to coarse calcium carbonate concretions, calcareous; mildly alkaline.

The soils range from neutral to moderately alkaline throughout. The Ap horizon in most pedons is noncalcareous. Intersecting slickensides are at a depth of 28 to 37 inches.

The A horizon has hue of 10YR, 2.5Y, or 5Y, value of 2 or 3, and chroma of 1 or 2.

The AC1 horizon has hue of 10YR, 2.5Y, or 5Y, value of 4, and chroma of 1. Mottles in shades of brown are common or many. The lower part of the AC horizon has hue of 2.5Y, value of 4 or 5, and chroma of 2; or hue of 5Y, value 4 or 5, and chroma of 1 to 3. Mottles are in shades of brown. Texture is silty clay or clay. The 10- to 40-inch control section is 40 to 60 percent clay. The AC horizon has few to many calcium carbonate concretions and is calcareous in some pedons.

Jena Series

The Jena series consists of deep, well drained, nearly level soils on flood plains. These soils formed in loamy alluvium. Slopes range from 0 to 2 percent. The soils of the Jena series are coarse-loamy, siliceous, thermic Fluventic Dystrochrepts.

Jena soils are associated with Mantachie, Mooreville, and Ochlockonee soils. These associated soils are in similar or slightly lower areas on the flood plains. Mantachie soils are more than 18 percent clay in the control section and have grayish matrix colors within 20 inches of the surface. Mooreville soils are more than 18 percent clay in the control section and have mottles with chroma of 2 within 24 inches of the surface. Ochlockonee soils have bedding planes in the upper 20 inches of the solum.

Typical pedon of Jena fine sandy loam, occasionally flooded; about 1.5 miles south of Mashulaville, 500 feet east of a gravel road, 120 feet north of Hashuqua Creek; SW1/4NW1/4 sec. 14, T. 14 N., R. 15 E.

Ap—0 to 7 inches; dark brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; common fine roots; few fine pores; wormholes filled with casts; medium acid; clear smooth boundary.

Bw1—7 to 18 inches; brown (7.5YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; few fine pores; few fine mica flakes; few thin discontinuous clay films in pores;

wormholes filled with casts; strongly acid; gradual smooth boundary.

Bw2—18 to 41 inches; strong brown (7.5YR 5/6) fine sandy loam; few medium distinct dark yellowish brown (10YR 3/4) mottles; weak fine subangular blocky structure; friable; few fine roots; few fine pores; few fine mica flakes; few thin discontinuous clay films in pores; wormholes filled with casts; few fine pockets of uncoated sand grains; very strongly acid; gradual wavy boundary.

C—41 to 70 inches; yellowish brown (10YR 5/4) loamy fine sandy; structureless; very friable; few fine roots; few fine mica flakes; very strongly acid.

The thickness of the solum ranges from 38 to 48 inches. The soils are very strongly acid or strongly acid throughout except in areas where the surface layer has been limed.

The Ap horizon has hue of 10YR, value of 4, and chroma of 2 or 3.

The Bw horizon has hue of 10YR or 7.5YR, value of 5, and chroma of 3 to 6. Some pedons have a few mottles in shades of brown. Texture is silt loam, fine sandy loam, or sandy loam. The 10- to 40-inch control section is 10 to 18 percent clay.

The C horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 or 4. Mottles in shades of brown range from none to common. Texture is fine sandy loam, sandy loam, or loamy fine sand.

Kipling Series

The Kipling series consists of deep, somewhat poorly drained soils on nearly level to strongly sloping uplands. These soils formed in acid clayey material over chalk. Slopes range from 0 to 12 percent. The soils of the Kipling series are fine, montmorillonitic, thermic Vertic Hapludalfs.

Kipling soils are associated with Freest, Oktibbeha, Sessum, and Vaiden soils. Freest soils, which are in adjacent upland and stream terrace areas, have a fine-loamy control section and have a lower shrink-swell potential. Oktibbeha soils, which are in adjacent and higher upland areas, have a reddish subsoil and do not have mottles that have chroma of 2 or less in the upper 10 inches of the Bt horizon. Sessum soils, which are in adjacent, nearly level upland areas, have a dominantly grayish subsoil. Vaiden soils, which are in adjacent upland areas, have more than 60 percent clay in the subsoil.

Typical pedon of Kipling silt loam, 0 to 2 percent slopes; about 2.75 miles southwest of Brooksville, 40 feet east of a gravel road; SE1/4SE1/4 sec. 31, T. 16 N., R. 17 E.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; friable, plastic; common fine roots; few fine brown and black concretions; strongly acid; clear smooth boundary.

Bt1—5 to 14 inches; mottled yellowish red (5YR 4/6) and yellowish brown (10YR 5/4) clay; few fine faint grayish brown mottles; moderate fine and medium angular blocky structure; firm, very plastic and very sticky; few fine roots; common cracks and rootholes filled with Ap material; patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—14 to 36 inches; mottled yellowish brown (10YR 5/4), light brownish gray (10YR 6/2), and red (2.5YR 4/6) clay; moderate fine and medium angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

BC—36 to 45 inches; mottled yellowish brown (10YR 5/6), dark yellowish brown (10YR 4/4), and light brownish gray (10YR 6/2) clay; moderate medium angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; few coarse nonintersecting slickensides; very strongly acid; gradual wavy boundary.

C—45 to 52 inches; mottled yellowish brown (10YR 5/6) and grayish brown (10YR 5/2) clay; strong coarse blocky grooved intersecting natural fragments; firm, very plastic and very sticky; few fine brown and black concretions; common medium and coarse black stains; medium acid; clear wavy boundary.

Cr—52 to 60 inches; light gray (10YR 7/2) unindurated limestone (firm, platy chalk); common fine to coarse distinct brownish yellow (10YR 6/6) mottles; strong fine and medium platy structure.

The thickness of the solum ranges from 30 to 55 inches. Marly clay or firm chalk is in an irregular pattern under the acid clay at a depth of 36 to 80 inches or more. The A and B horizons range from very strongly acid to medium acid, and the underlying material ranges from strongly acid to moderately alkaline.

The A horizon has hue of 10YR, value of 3 or 4; and chroma of 2 to 4 or hue of 2.5Y, value of 4, and chroma of 2.

The Bt horizon has hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 to 8. Mottles with chroma of 2 or less are few to many, or the Bt horizon is mottled in shades of brown, gray, and red. The lower part of the Bt horizon in some pedons has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 with mottles in shades of brown, or it is mottled with these colors. Texture is silty clay loam, silty clay, or clay. The upper 20 inches of the Bt horizon is 35 to 55 percent clay.

The BC and C horizons are mottled in shades of brown, gray, and red. Texture is silty clay or clay. Brown

and black concretions range from few to many, and calcium carbonate concretions range from none to many.

A Cr horizon of unindurated limestone (firm, platy chalk) is in an irregular pattern in most pedons. Typically, the Cr horizon is deeper than 50 inches, but it can be as shallow as 36 inches.

Latonia Series

The Latonia series consists of deep, well drained, nearly level and gently sloping soils on stream terraces. These soils formed in sediment that is loamy in the upper part and sandy in the lower part. Slopes range from 0 to 3 percent. The soils of the Latonia series are coarse-loamy, siliceous, thermic Typic Hapludults.

The Latonia soils are associated with Cahaba soils. Cahaba soils, which are on adjacent stream terraces, have a redder subsoil and a fine-loamy control section.

Typical pedon of Latonia fine sandy loam, occasionally flooded; about 2 miles northeast of Bigbee Valley, 3,600 feet south of Lowndes County line, 2.15 miles west of Alabama State line, 100 feet west of a field road; NE1/4NE1/4 sec. 3, T. 16 N., R. 19 E.

Ap—0 to 7 inches; dark brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.

Bt1—7 to 16 inches; dark yellowish brown (10YR 4/4) sandy loam; weak fine subangular blocky structure; friable; few fine roots; sand grains bridged and coated with clay; very strongly acid; gradual smooth boundary.

Bt2—16 to 25 inches; yellowish brown (10YR 5/6) sandy loam; weak fine subangular blocky structure; friable; few fine roots; sand grains bridged and coated with clay; few pockets of uncoated sand grains; very strongly acid; gradual smooth boundary.

BC—25 to 38 inches; yellowish brown (10YR 5/6) sandy loam; common medium distinct brown (10YR 5/3) mottles; weak fine subangular blocky and granular structure; few fine roots; some sand grains bridged and coated with clay; few pockets of uncoated sand grains; very strongly acid; gradual smooth boundary.

C1—38 to 56 inches; brownish yellow (10YR 6/6) loamy sand; common fine and medium faint light yellowish brown (10YR 6/4) mottles; single grained; loose; few sand grains bridged and coated; very strongly acid; gradual smooth boundary.

C2—56 to 75 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; very strongly acid.

The thickness of the solum ranges from 25 to 45 inches. The soils are very strongly acid or strongly acid throughout except in areas that have been limed.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Texture is fine sandy loam, sandy loam, or loamy fine sand.

The Bt horizon has hue of 7.5YR, value of 5, and chroma of 4 to 6; or hue of 10YR, value of 4 or 5, and chroma of 4 to 8. Texture is fine sandy loam, sandy loam, or loam. The B horizon is 10 to 16 percent clay and 20 to 35 percent silt.

The BC horizon, if present, has hue of 10YR, value of 4 or 5, and chroma of 4 to 8. Texture is sandy loam or fine sandy loam.

The C horizon is variable in color ranging from very pale brown to yellowish brown. Texture is loamy sand or sand.

Leeper Series

The Leeper series consists of deep, somewhat poorly drained, nearly level soils on flood plains. These soils formed in clayey alluvium. Slopes range from 0 to 2 percent. The soils of the Leeper series are fine, montmorillonitic, nonacid, thermic Vertic Haplaquepts.

Leeper soils are associated with Catalpa, Griffith, and Marietta soils. These soils are all on flood plains. Catalpa soils, which are in adjacent areas, have a mollic epipedon between 10 and 24 inches thick. Griffith soils, which are generally in slightly higher areas towards the toe of slopes, have a mollic epipedon more than 24 inches thick. Marietta soils, which are located on mixed coastal plain and prairie flood plains, have a fine-loamy control section.

Typical pedon of Leeper silty clay, occasionally flooded; about 7.5 miles east of Brooksville, 2.2 miles north of Mississippi State Highway 388, 700 feet east of a gravel road, 100 feet south of a pasture fence; SW1/4NE1/4 sec. 3, T. 16 N., R. 18 E.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silty clay; few fine distinct yellowish brown mottles; moderate medium granular structure; friable, plastic and sticky; many fine roots; few wormcasts; neutral; clear smooth boundary.

Bw1—5 to 17 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate medium angular blocky and subangular blocky structure; firm, very plastic and very sticky; few fine roots; few fine charcoal fragments; pressure faces on some peds; mildly alkaline; gradual smooth boundary.

Bw2—17 to 24 inches; grayish brown (10YR 5/2) silty clay; many fine and medium distinct brown (7.5YR 4/4) mottles; moderate fine and medium subangular and angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; pressure faces on some peds; neutral; gradual wavy boundary.

Bw3—24 to 42 inches; grayish brown (2.5Y 5/2) silty clay; many fine and medium distinct strong brown (7.5YR 5/6) and brown (7.5YR 4/4) mottles; weak medium subangular and angular blocky structure; firm, very plastic and very sticky; few fine roots; few

fine brown and black concretions; pressure faces on some peds; slightly acid; gradual wavy boundary.

Cg—42 to 67 inches; light brownish gray (10YR 6/2) clay; many fine and medium distinct yellowish brown (10YR 5/8) and brown (7.5YR 4/4) mottles; massive, some breaking to weak fine and medium subangular and angular fragments; firm, very plastic and very sticky; few fine roots; stress surfaces on some fragments; few nonintersecting slickensides; medium acid.

The thickness of the solum ranges from 28 to 48 inches. The soils range from medium acid to moderately alkaline throughout.

The A horizon has hue of 10YR or 2.5Y, value of 4, and chroma of 2. Some pedons have a thin A1 horizon, that is less than 6 inches thick. It has hue of 10YR, value of 3, and chroma of 1 or 2.

The B horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2. In some pedons the upper part of the B horizon is mottled in shades of brown and gray, and the lower part has matrix colors in hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. Texture is clay or silty clay.

The Cg horizon has hue of 10YR, value of 6, and chroma of 1 or 2; or it is mottled in shades of brown and gray. Texture is clay or silty clay. Brown and black concretions range from few to many in the B and C horizons.

Longview Series

The Longview series consists of deep, somewhat poorly drained soils on nearly level uplands. These soils formed in silty material. Slopes range from 0 to 5 percent. The soils of the Longview series are fine-silty, siliceous, thermic Glossaquic Hapludalfs.

Longview soils are associated with Falkner and Savannah soils. Falkner soils, which are on adjacent uplands, do not have a B/E horizon and have a clayey 2Bt horizon. Savannah soils, which are on uplands and stream terraces in adjacent and slightly higher sloping areas, are moderately well drained, fine-loamy soils that have a fragipan.

Typical pedon of Longview silt loam, 0 to 2 percent slopes; about 2.5 miles south of Bluff Lake, 30 feet south of a gravel road and opposite a road headed north; NW1/4NE1/4 sec. 20, T. 16 N., R. 15 E.

Ap—0 to 4 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; few fine brown and black concretions; strongly acid; clear smooth boundary.

Bt1—4 to 13 inches; yellowish brown (10YR 5/6) silt loam; few fine and medium distinct light brownish gray (10YR 6/2) mottles in the lower part; weak fine and medium subangular blocky structure; friable; few fine roots; few fine brown and black concretions; few thin clay films in channels and voids; very strongly acid; clear wavy boundary.

Bt2—13 to 18 inches; yellowish brown (10YR 5/6) silt loam; common fine and medium distinct light brownish gray (10YR 6/2) mottles; moderate fine and medium subangular blocky structure; friable, slightly plastic; few fine roots; few fine brown and black concretions; few thin oriented clay films along pores; few gray silt coatings; very strongly acid; gradual wavy boundary.

B/E—18 to 32 inches; mottled yellowish brown (10YR 5/6), light brownish gray (10YR 6/2), and strong brown (7.5YR 5/6) silt loam; weak medium prismatic parting to moderate fine and medium subangular blocky structure; friable, brown part slightly brittle and compact; few fine roots; few fine brown and black concretions; common fine pores; common gray silt coatings on faces of peds, in pockets, and on faces of prisms; very strongly acid; gradual wavy boundary.

B't1—32 to 56 inches; mottled light brownish gray (10YR 6/2), light yellowish brown (10YR 6/4), and yellowish brown (10YR 5/6) silt loam; weak medium prismatic parting to moderate medium subangular blocky structure; firm, slightly brittle, compact; few fine roots; few fine brown and black concretions; patchy clay films on faces of some peds; gray silt coatings on faces of peds and prisms; extremely acid; gradual wavy boundary.

B't2—56 to 70 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/4), and strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm, plastic and slightly sticky; common fine brown and black concretions; patchy clay films on faces of some peds; gray silt coatings on faces of some peds; extremely acid.

The thickness of the solum is more than 60 inches. Longview soils are extremely acid to strongly acid throughout except where the surface layer has been limed. Base saturation by sum of cations at 50 inches below the upper boundary of the B horizon ranges from 35 to 50 percent.

The A horizon has hue of 10YR, value of 4 to 6, and chroma of 2 to 4.

The Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 6; or hue of 2.5Y, value of 6, and chroma of 4. The upper 10 inches of the argillic horizon has mottles that have chroma of 2 or less. The Bt horizon is silt loam or silty clay loam. The upper 20 inches of the Bt horizon is 18 to 27 percent clay.

The B/E horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 6 in the B part of the horizon and has hue of 10YR, value of 6 or 7, and chroma of 2 in the E part of the horizon. The E part of the horizon is interfingered between peds of the B part of the horizon.

The B't horizon commonly is mottled in shades of yellow, gray, and brown. Some pedons have a matrix color in hue of 10YR, value of 6, and chroma of 1 or 2. Mottles are in shades of brown and yellow.

Lucedale Series

The Lucedale series consists of deep, well drained, nearly level soils on uplands. These soils formed in loamy material. Slopes range from 0 to 2 percent. The soils of the Lucedale series are fine-loamy, siliceous, thermic Rhodic Paleudults.

Lucedale soils are associated with Ruston soils. Ruston soils are in slightly more convex areas of uplands and have a bisequal profile.

Typical pedon of Lucedale fine sandy loam, 0 to 2 percent slopes; about 1.4 miles southeast of Mashulaville; 1,500 feet west of a gravel road, 63 feet north of woods line; SW1/4NW1/4 sec. 12, T. 14 N., R. 15 E.

Ap—0 to 7 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; few fine roots; medium acid; clear smooth boundary.

Bt1—7 to 22 inches; dark red (2.5YR 3/6) clay loam; moderate medium subangular blocky structure; firm; few fine roots; continuous clay films on faces of peds; few fine dark stains; very strongly acid; gradual smooth boundary.

Bt2—22 to 47 inches; dark red (2.5YR 3/6) sandy clay loam; moderate medium subangular blocky structure; firm; few fine roots; continuous clay films on faces of peds; few fine dark stains; very strongly acid; gradual smooth boundary.

Bt3—47 to 65 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; few fine roots; patchy clay films on faces of peds; few clean sand grains; very strongly acid; gradual smooth boundary.

Bt4—65 to 78 inches; red (2.5YR 4/6) loam; weak medium subangular blocky structure; friable; patchy clay films on faces of peds; few clean sand grains; very strongly acid; gradual smooth boundary.

The thickness of the solum ranges from 60 inches to more than 78 inches. Lucedale soils range from strongly acid to slightly acid in the surface layer except in areas that have been limed. The subsoil is very strongly acid or strongly acid.

The A horizon has hue of 7.5YR, value of 3 or 4, and chroma of 2 or 4.

The Bt horizon has hue of 2.5YR, value of 3, and chroma of 4 or 6; or hue of 5YR, value of 3, and chroma of 4. Some pedons have hue of 2.5YR, value of 4, and chroma of 6 at a depth of more than 40 inches. Texture is clay loam, sandy clay loam, or loam. The upper 20 inches of the Bt horizon is 20 to 30 percent clay and about 20 to 38 percent silt.

Lucy Series

The Lucy series consists of deep, well drained soils on hilly uplands. These soils formed in material that is sandy in the upper part and loamy in the lower part. Slopes range from 15 to 35 percent. The soils of the Lucy series are loamy, siliceous, thermic Arenic Paleudults.

Lucy soils are associated with Smithdale soils. Smithdale soils, which are on adjacent and lower parts of upland hillsides, do not have a thick, sandy E horizon.

Typical pedon of Lucy loamy sand, in an area of Smithdale-Lucy association, hilly; about 4 miles northwest of Gholson, 660 feet east of a blacktop road; NW1/4NW1/4 sec. 16, T. 13 N., R. 15 E.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common fine roots; neutral; clear irregular boundary.

E—4 to 22 inches; dark yellowish brown (10YR 4/4) loamy sand; weak fine granular structure; very friable; few fine roots; few wormholes and rootholes filled with Ap material; strongly acid; gradual smooth boundary.

BE—22 to 27 inches; red (2.5YR 4/8) sandy loam; weak fine subangular blocky structure; few medium strong brown (7.5YR 5/6) mottles; very friable; few fine roots; strongly acid; gradual smooth boundary.

Bt1—27 to 45 inches; red (2.5YR 4/6) sandy loam; weak medium subangular blocky structure; firm; few fine roots; continuous clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—45 to 62 inches; red (2.5YR 4/6) sandy loam; weak fine subangular blocky and weak fine granular structure; friable; few fine roots; few thin patchy clay films on faces of some peds; sand grains bridged and coated with clay; very strongly acid; gradual wavy boundary.

BC—62 to 70 inches; yellowish red (5YR 5/8) sandy loam; few medium strong brown (7.5YR 5/8) spots; weak fine granular structure; very friable; sand grains bridged and coated with clay; very strongly acid.

The thickness of the solum is 60 inches or more. Lucy soils are very strongly acid or strongly acid throughout except in areas that have been limed. Fine to coarse quartz fragments are none or few throughout.

Thickness of the A and E horizons combined ranges from 24 to 38 inches.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3.

The E horizon has hue of 10YR, value of 4 to 6, and chroma of 4 to 8. Texture is loamy sand or loamy fine sand.

The BE horizon, if present, has hue of 2.5YR, 5YR, or 7.5YR, value of 4 or 5, and chroma of 6 or 8.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. Some pedons have mottles in shades of yellow and brown below a depth of 36 inches. Texture is sandy clay loam, sandy loam, or clay loam. The upper 20 inches of the Bt horizon averages from 18 to 30 percent clay.

The BC horizon, if present, has colors similar to the Bt horizon.

Mantachie Series

The Mantachie series consists of deep, somewhat poorly drained, nearly level soils on flood plains. These soils formed in loamy alluvium. Slopes range from 0 to 2 percent. The soils of the Mantachie series are fine-loamy, siliceous, acid, thermic Aeric Fluvaquents.

Mantachie soils are associated with Jena, Mooreville, and Urbo soils. These soils are all on flood plains. Jena soils, which are in slightly higher areas near the major streams, are better drained and have a coarse-loamy control section. Mooreville soils, which are in slightly higher areas, have colors of higher chroma in the B horizon and are better drained. Urbo soils, which are sometimes in slightly lower areas and depressions, have a clayey control section.

Typical pedon of Mantachie loam, occasionally flooded; about 2 miles south of Macon, 150 yards west of U.S. 45 Highway bypass, and 30 feet south of a fence; SE1/4SE1/4 sec. 9, T. 14 N., R. 17 E.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loam; moderate fine granular structure; friable; common fine roots; few fine brown and black concretions; strongly acid; clear smooth boundary.

Bwl—6 to 14 inches; brown (10YR 5/3) loam; common fine distinct grayish brown (10YR 5/2) mottles; weak fine and medium subangular blocky structure; friable; few fine roots; few fine brown and black concretions; very strongly acid; clear smooth boundary.

Bw2—14 to 19 inches; mottled yellowish brown (10YR 5/4), grayish brown (10YR 5/2), and light brownish gray (10YR 6/2) loam; weak medium subangular blocky structure; friable; few fine roots; few fine brown and black concretions; very strongly acid; clear smooth boundary.

Bg1—19 to 27 inches; light brownish gray (10YR 6/2) clay loam; many fine and medium distinct yellowish brown (10YR 5/4) and brown (10YR 5/3) mottles; weak medium subangular blocky structure; firm, slightly plastic and slightly sticky; few fine roots; few fine brown and black concretions; very strongly acid; gradual smooth boundary.

Bg2—27 to 60 inches; light brownish gray (10YR 6/2) clay loam; common fine and medium distinct yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; firm, plastic and sticky; few fine roots; few fine brown and black concretions; very strongly acid.

Thickness of the solum ranges from 40 to 65 inches. The soils are very strongly acid or strongly acid throughout except in areas where the surface layer has been limed. Iron concretions range from none to common throughout.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 6, or it is mottled in shades of brown and gray. Some pedons have a thin A horizon, that is less than 6 inches thick and has hue of 10YR, value of 3, and chroma of less than 3.5.

The Bw horizon is mottled in shades of gray and brown, or it has a matrix that has hue of 10YR, value of 4 or 5, and chroma of 2 to 6. Grayish mottles are few to many. The Bg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2; or hue of 2.5Y, value of 4 to 5, and chroma of 2. Mottles are few to many in shades of brown and red. The B horizon is clay loam, loam, or sandy clay loam. The 10- to 40-inch particle-size control section is 18 to 34 percent clay.

Marietta Series

The Marietta series consists of deep, moderately well drained soils on nearly level flood plains. These soils formed in loamy alluvium. Slopes range from 0 to 2 percent. The soils of the Marietta series are fine-loamy, siliceous, thermic Fluvaquentic Eutrochrepts.

Marietta soils are associated with Catalpa and Leeper soils on flood plains. The Catalpa soils that are in similar areas as Marietta soils have a mollic epipedon 10 to 24 inches thick. Both Catalpa and Leeper soils that are in slightly lower areas than Marietta soils have a clayey control section.

Typical pedon of Marietta loam, occasionally flooded; about 4.5 miles southeast of Shuqualak, 3,400 feet north of Calyx, 300 feet east of a field road, and 35 feet west of a drainage ditch; SE1/4SW1/4, sec. 19, T. 13 N., R. 18 E.

Ap—0 to 9 inches; dark brown (10YR 4/3) loam; common fine and medium dark grayish brown mottles; weak fine and medium granular structure; friable; common fine roots; few wormcasts; mildly alkaline; clear smooth boundary.

Bw1—9 to 20 inches; dark yellowish brown (10YR 4/4) loam; few fine grayish brown mottles; weak fine and medium subangular blocky structure; friable; few fine roots; few wormcasts; few fine pieces of charcoal; mildly alkaline; gradual smooth boundary.

Bw2—20 to 38 inches; mottled grayish brown (2.5Y 5/2), dark yellowish brown (10YR 4/4), and dark brown (10YR 4/3) clay loam; weak medium subangular blocky structure; firm; few fine roots; mildly alkaline; gradual wavy boundary.

Bg—38 to 60 inches; gray (10YR 5/1) silty clay loam; many fine and medium distinct dark yellowish brown (10YR 4/4) and olive brown (2.5Y 4/4) mottles; weak fine and medium subangular blocky structure; firm, slightly plastic and slightly sticky; few fine roots; few fine brown and black concretions; mildly alkaline.

The thickness of the solum ranges from 38 to 60 inches. The soils range from medium acid through mildly alklaine.

The A horizon has hue of 10YR, value of 4, and chroma of 2 or 3.

The Bw1 horizon has hue of 10YR, value of 4, and chroma of 3 or 4. Grayish mottles are few to common. The Bw2 horizon has colors similar to those of the Bw1 horizon, or it is mottled in shades of gray and brown. The Bg horizon has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. Texture of the B horizon is loam, sandy clay loam, clay loam, or silty clay loam. The 10- to 40-inch control section is 18 to 30 percent clay. Brown and black concretions in the Bg horizon are few or common.

Mooreville Series

The Mooreville series consists of deep, moderately well drained, soils on nearly level flood plains. These soils formed in loamy alluvium. Slopes range from 0 to 2 percent. The soils of the Mooreville series are fine-loamy, siliceous, thermic Fluvaquentic Dystrochrepts.

Mooreville soils are associated with Jena, Mantachie, and Urbo soils. These soils are all on flood plains. Jena soils, which are in adjacent areas, do not have grayish mottles within 24 inches of the surface and have a coarse-loamy control section. Mantachie soils, which are in slightly lower areas and farther away from the major streams, are somewhat poorly drained. Urbo soils, which are in lower areas and in some depressions, have a clayey control section.

Typical pedon of Mooreville loam, occasionally flooded; about 7.5 miles west of U.S. Highway 45 on a blacktop road at Brooksville to a gravel road, 3 miles south to a gravel road, 1.5 miles west, 500 feet south of a gravel road, 180 feet west of a bend in Noxubee River; NW1/4NW1/4 sec. 6, T. 15 N., R. 16 E.

Ap—0 to 7 inches; brown (10YR 4/3) loam; weak fine granular structure; friable; common fine roots; very strongly acid; clear smooth boundary.

Bw1—7 to 16 inches; dark yellowish brown (10YR 4/4) loam; few fine faint dark brown mottles; weak fine subangular blocky structure; friable; few fine roots; few fine brown and black concretions; very strongly acid; clear wavy boundary.

Bw2—16 to 25 inches; dark yellowish brown (10YR 4/4) loam; common fine and medium distinct light brownish gray (10YR 6/2) and brown (10YR 5/3) mottles; weak medium subangular blocky structure; firm; few fine roots; few fine brown and black concretions; few fine pores; very strongly acid; clear wavy boundary.

Bw3—25 to 49 inches; mottled dark yellowish brown (10YR 4/4), light brownish gray (10YR 6/2), and yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; firm; few fine roots; few fine brown and black concretions; very strongly acid; clear wavy boundary.

Cg—49 to 70 inches; light brownish gray (10YR 6/2) loam; common fine and medium distinct yellowish brown (10YR 5/6) mottles; massive; firm; few fine roots; few fine brown and black concretions; very strongly acid.

Thickness of the solum ranges from 42 to 60 inches. The soils are very strongly acid or strongly acid throughout except in areas where the surface layer has been limed.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3.

The Bw1 and Bw2 horizons have hue of 10YR, value of 4, and chroma of 3 or 4; or hue of 10YR, value of 5, and chroma of 3 to 6. Mottles in shades of gray and brown are few or common. Texture is loam or sandy clay loam. The lower part of the Bw horizon has colors similar to the Bw1 and Bw2 horizons with mottles in shades of brown and gray, or it is mottled in shades of brown and gray. Texture is loam, sandy clay loam, or clay loam.

The C horizon has a grayish matrix with mottles in shades of brown, or it is mottled in shades of gray and brown. Texture is loam, sandy clay loam, clay loam, or sandy loam. Brown and black concretions are few or common in some pedons of the B and C horizons.

Ochlockonee Series

The Ochlockonee series consists of deep, well drained soils on nearly level flood plains. They formed in loamy alluvium. Slopes range from 0 to 2 percent. The soils of the Ochlockonee series are coarse-loamy, siliceous, acid, thermic Typic Udifluvents.

Ochlockonee soils are associated with Belden and Jena soils. These soils are all on flood plains. Belden soils, which are in lower depressions, are saturated for long periods of time and have a fine-silty control section. Jena soils, which are in similar areas, do not have bedding planes.

Typical pedon of Ochlockonee fine sandy loam, occasionally flooded; about 1.5 miles west of Gholson, 2,200 feet north of Mississippi State Highway 21, 84 feet west of a gravel road, 360 feet south of a drain; NW1/4NW1/4 sec. 34, T. 13 N., R. 15 E.

Ap—0 to 6 inches; brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; few fine

roots; few fine mica flakes; neutral; clear smooth boundary.

C1—6 to 10 inches; strong brown (7.5YR 5/6) sandy loam; few thin strata of yellowish brown silt loam; weak fine granular structure; very friable; few fine roots; few wormcasts; neutral; clear smooth boundary.

C2—10 to 25 inches; brown (7.5YR 5/4) loam; common strata and pockets of yellowish brown silt loam up to 1/3 inch thick; weak fine granular structure; friable; few fine roots; few fine mica flakes; few wormcasts; medium acid; gradual wavy boundary.

C3—25 to 34 inches; brown (7.5YR 4/4) sandy loam; few strata of yellowish brown silt loam up to 1/3 inch thick; weak fine granular structure; very friable; few fine mica flakes; strongly acid; gradual smooth boundary.

C4—34 to 53 inches; dark yellowish brown (10YR 4/4) loam; common fine pockets and strata of brown silt loam; weak fine granular structure; friable; few fine roots; few charcoal fragments; few fine mica flakes; slightly acid; clear smooth boundary.

Ab—53 to 64 inches; dark brown (7.5YR 3/2) loam; common fine dark yellowish brown mottles; weak fine granular structure; friable; few fine mica flakes; slightly acid; clear smooth boundary.

2C—64 to 77 inches; strong brown (7.5YR 5/6) loamy sand; single grained; loose; slightly acid.

The Ap horizon and the upper part of the underlying material are medium acid to neutral. The lower part of the underlying material is strongly acid to neutral. Most pedons have strata of contrasting texture and have an irregular distribution of organic matter as depth increases.

The A horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 2 through 4.

The C horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 to 6. Strata within the C horizon range from loam to loamy sand. The 10- to 40-inch control section averages sandy loam or loam that has less than 18 percent clay and more than 15 percent fine and coarser sand.

The Ochlockonee soils in this county are taxadjuncts to the Ochlockonee series because they typically have pH values about 0.5 to 1.0 unit higher than 5.5 in some parts of the control section. This is outside the range of characteristics defined for the Ochlockonee series.

Okolona Series

The Okolona series consists of deep, well drained, nearly level and gently sloping soils on uplands. These soils formed in basic clayey material underlain by marly clay and chalk. Slopes range from 0 to 3 percent. The soils of the Okolona series are fine, montmorillonitic, thermic Typic Chromuderts.

Okolona soils are associated with Binnsville, Brooksville, and Sumter soils. These soils are all on uplands. Binnsville soils, which are in adjacent and in some steeper areas than Okolona soils, have much thinner dark A horizons and chalk within 20 inches of the surface. Brooksville soils, which are in adjacent areas, have distinct or prominent reddish or brownish mottles within the upper 20 inches of the dark A horizon. Sumter soils, which are mostly on steeper hillsides and ridges, are calcareous throughout and do not have a thick, dark A horizon.

Typical pedon of Okolona silty clay, 0 to 1 percent slopes; about 7 miles east of Macon, 2 miles south of Mississippi Highway 14, about 2,100 feet east of a sharp turn, 75 feet south of the road; NE1/4NW1/4 sec. 23, T. 14 N., R. 18 E.

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silty clay; moderate fine granular structure; friable, plastic and sticky; common fine roots; few fine brown and black concretions; neutral; clear smooth boundary.

A1—7 to 14 inches; very dark grayish brown (10YR 3/2) silty clay; weak coarse prismatic structure parting to moderate fine and medium angular blocky and granular; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; neutral; gradual wavy boundary.

A2—14 to 29 inches; very dark grayish brown (2.5Y 3/2) clay; few fine faint dark grayish brown mottles; moderate medium prismatic structure parting to moderate fine and medium angular blocky; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; shiny pressure faces on some peds; neutral; gradual wavy boundary.

AC—29 to 41 inches; dark grayish brown (2.5Y 4/2) clay; common fine and medium distinct olive brown (2.5Y 4/4) mottles; some intersecting slickensides that form wedge-shaped fragments parting to moderate fine and medium angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; few fine to coarse calcium carbonate concretions; mildly alkaline; gradual wavy boundary.

C—41 to 65 inches; mottled light yellowish brown (2.5Y 6/4), light olive brown (2.5Y 5/6), and dark grayish brown (2.5Y 4/2) clay; intersecting slickensides that form grooved wedge-shaped natural fragments; firm, very plastic and very sticky; few fine roots; common fine brown and black concretions; few fine to coarse calcium carbonate concretions; mildly alkaline.

The thickness of the A and AC horizons ranges from 40 inches to more than 58 inches. The A horizon ranges from neutral through moderately alkaline. The AC and C horizons are mildly alkaline or moderately alkaline. Depth to chalk ranges from 48 inches to more than 76 inches.

Intersecting slickensides are at a depth of 20 to 33. Cycles of microlows and microhighs are repeated about every 7 to 20 feet. The thickness of horizons with color value of less than 3.5 and chroma of 1.5 or more ranges from 16 to 30 inches in the center of the microlows and from 8 to 14 inches in the center of the microhighs.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 2 or 3 or hue of 2.5Y, value of 3, and chroma of 2 in the upper 12 inches in more than half of each pedon. Colors that have hue of 10YR, value of 4, and chroma of 2 are allowed.

The AC and C horizons have hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4, or they are mottled in shades of brown and gray. Texture of the AC and C horizons is silty clay or clay. The 10- to 40-inch particle-size control section is 40 to 55 percent clay. Brown and black concretions are few or common.

Oktibbeha Series

The Oktibbeha series consists of deep, moderately well drained soils on gently sloping to steep uplands. These soils formed in beds of acid clay underlain by marly clay and chalk. Slopes range from 2 to 25 percent. The soils of the Oktibbeha series are very-fine, montmorillonitic, thermic Vertic Hapludalfs.

Oktibbeha soils are associated with Kipling and Sumter soils on uplands. Kipling soils, which are on adjacent broad, nearly level areas, have a browner subsoil and mottles of chroma 2 within the upper 10 inches of the B horizon. Sumter soils, which are on similar uplands, are calcareous throughout and do not have the vertic characteristics of the Oktibbeha soils.

Typical pedon of Oktibbeha silty clay loam, 2 to 5 percent slopes, eroded; about 4.5 miles west of Brooksville, 1 mile north of a blacktop road, 250 feet west of a gravel road, 50 feet south of a pasture fence; NW1/4NE1/4 sec. 16, T 16 N., R. 16 E.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silty clay loam; common fine and medium reddish fragments of B material; weak fine granular structure; friable; many fine roots; few fine brown and black concretions; slightly acid; clear smooth boundary.

Bt1—4 to 17 inches; red (2.5YR 4/6) clay; few fine and medium distinct yellowish brown (10YR 5/6) mottles; strong medium subangular blocky structure; firm, very plastic and very sticky; common fine roots; few fine brown and black concretions; continuous clay films or pressure faces on peds; very strongly acid; gradual wavy boundary.

Bt2—17 to 27 inches; red (2.5YR 4/6) clay; common fine and medium distinct yellowish brown (10YR 5/6) and few to common distinct light olive gray (5Y 6/2) mottles; moderate fine and medium subangular blocky and angular blocky structure; firm, very plastic and very sticky; few fine roots; clay films or pressure faces on most ped faces; very strongly acid; gradual wavy boundary.

Bt3—27 to 36 inches; mottled yellowish red (5YR 4/6), yellowish brown (10YR 5/6), and light olive gray (5Y 6/2) clay; moderate fine and medium subangular and angular blocky structure; firm, very plastic and very sticky; few fine roots; clay films or pressure faces on some ped faces; few slickensides; very strongly acid; gradual wavy boundary.

C1—36 to 44 inches; mottled yellowish brown (10YR 5/6), red (2.5YR 4/6), and olive gray (5Y 5/2) clay; strong coarse blocky grooved intersecting natural fragments; firm, very plastic and very sticky; few fine roots; many very dark gray stains in lower 4 inches; neutral; gradual wavy boundary.

C2—44 to 60 inches; light yellowish brown (2.5Y 6/4) marly clay; common medium and coarse brownish yellow (10YR 6/8) mottles; massive; firm, very plastic and very sticky; few fine and medium calcium carbonate concretions; common fine to coarse soft white (10YR 8/1) secondary calcium carbonate spots; few dark gray stains; moderately alkaline.

The thickness of the solum over marly clay or chalk ranges from 29 inches to more than 50 inches. The A and B horizons range from very strongly acid to slightly acid. The C horizon ranges from neutral to moderately alkaline.

The A horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 2 to 4. Texture is silty clay loam, silt loam, loam, or fine sandy loam.

The Bt1 and Bt2 horizons have hue of 7.5YR, 5YR, or 2.5YR, value of 4 or 5, and chroma of 4 to 8. In some pedons these horizons have few or common brownish mottles. In some pedons, the Bt2 horizon has mottles of chroma 2 or less, but they are not in the upper 10 inches of the Bt1 horizon. Texture is clay or silty clay.

The Bt3 horizon has colors similar to the Bt1 and Bt2 horizons but also includes hue of 10YR, value of 5 or 6, and chroma of 4 to 8. Mottles in shades of brown and gray are few to many, or the Bt3 horizon is mottled in shades of red, brown, and gray. It is clay or silty clay.

The C horizon has hue of 10YR, 2.5Y, or 5Y, value of 5 to 7, and chroma of 3 to 8. Mottles in shades of gray and brown are few to many, or the C horizon is mottled in shades of olive, brown, and gray. It is clay, silty clay, marly clay, or chalk (fig. 15) and contains few to many soft bodies and concretions of calcium carbonate.

The Oktibbeha soils in this county are taxadjuncts to the Oktibbeha series because they typically have slightly less than 60 percent clay in the control section. This is outside the range of characteristics defined for the Oktibbeha series. They differ from the competing Kipling soils by being better drained and not having gray mottles in the upper 10 inches of the argillic horizon.

Figure 15.—An area of Oktibbeha silty clay loam, 2 to 5 percent slopes, eroded. The light colored material is Selma Chalk.

Prentiss Series

The Prentiss series consists of deep, moderately well drained, nearly level to gently sloping soils that have a fragipan. They formed in loamy material on stream terraces and uplands. Slopes range from 0 to 5 percent. The soils of the Prentiss series are coarse-loamy, siliceous, thermic Glossic Fragiudults.

Prentiss soils are associated with Cahaba, Savannah, and Stough soils. Cahaba soils, which are on adjacent or slightly higher stream terraces, are well drained and have a fine-loamy control section. Savannah soils, which are in adjacent and higher areas on uplands and stream terraces, have a fine-loamy control section. Stough soils, which are in lower areas and depressions of uplands and stream terraces, are somewhat poorly drained and do not have a fragipan.

Typical pedon of Prentiss fine sandy loam, 0 to 2 percent slopes; about 1 mile east of Mashulaville, 1,000 feet south of Mississippi State Highway 14, 50 feet north of a gravel road at a gate; SE1/4SE1/4 sec. 1, T. 14 N., R. 15 E.

Ap—0 to 6 inches; brown (10YR 4/3) fine sandy loam; common fine faint brown mottles; weak fine granular structure; very friable; many fine roots; few fine brown and black concretions; strongly acid; abrupt smooth boundary.

Bw1—6 to 18 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak fine and medium subangular blocky structure; friable; few fine roots; few fine brown and black concretions; sand grains bridged and coated with clay; very strongly acid; gradual smooth boundary.

Bw2—18 to 27 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak fine and medium subangular blocky structure; friable; few fine roots; few fine and medium brown and black concretions; sand grains coated and bridged with clay; few pockets of uncoated sand grains; very strongly acid; clear irregular boundary.

Btx1—27 to 46 inches; light yellowish brown (2.5Y 6/4) sandy loam; common fine to coarse distinct yellowish brown (10YR 5/6) and few fine distinct light brownish gray mottles; weak very coarse prismatic structure parting to weak fine subangular blocky; firm, compact and brittle in about 70 percent, by volume; few fine roots; patchy clay films on faces of some peds; common fine pores; some sand grains bridged by clay; gray seams of less clayey material between prism faces; common fine to

coarse brown and black concretions; strongly acid; gradual wavy boundary.

Btx2—46 to 64 inches; mottled yellowish brown (10YR 5/4, 5/8), light brownish gray (10YR 6/2), and strong brown (7.5YR 5/6) loam; weak very coarse prismatic structure parting to weak fine and medium subangular blocky; firm, brittle and compact in about 70 percent, by volume; common fine voids; few patchy clay films on faces of some peds; gray seams of less clayey material between prism faces; very strongly acid.

Thickness of the solum is more than 60 inches. Depth to the fragipan ranges from 20 to 27 inches. The soils are very strongly acid or strongly acid throughout except in areas where the surface layer has been limed.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. Some pedons have an E horizon in hue of 10YR, value of 5 or 6, and chroma of 2 to 4.

The Bw horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 6, or hue of 2.5Y, value of 5 or 6, and chroma of 4 to 6. Mottles of chroma of 2 or less are not within 16 inches of the surface. Texture is loam or sandy loam. The particle-size control section, between a depth of 10 inches and the upper boundary of the fragipan, is 12 to 18 percent clay, more than 15 percent fine and coarser sand, and 35 to 60 percent silt.

The Btx horizon has a matrix color like the Bw horizon and mottles of chroma of 2 or less, or it is mottled in shades of brown, yellow, red, and gray. The Btx horizon is loam, sandy loam, or sandy clay loam. Iron and manganese concretions are few or common in some pedons.

Quitman Series

The Quitman series consists of deep, moderately well drained, nearly level soils on stream terraces. These soils formed in loamy material. Slopes range from 0 to 2 percent. The soils of the Quitman series are fine-loamy, siliceous, thermic Aquic Paleudults.

Quitman soils are associated with Freest, Stough, and Vimville soils. These soils are on uplands and stream terraces. Freest soils, which are in adjacent areas, have a higher base saturation in the lower subsoil. Stough soils, which are in adjacent and lower areas, have a coarse-loamy control section. Vimville soils, which are in lower and depressional areas, are dominantly gray between the Ap or A1 horizon and a depth of 30 inches.

Typical pedon of Quitman fine sandy loam, undulating, occasionally flooded; about 2.9 miles south of Paulette, 320 feet south of the Noxubee River; NW1/4NE1/4 sec. 27, T. 13 N., R. 18 E.

A1—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; common fine and medium distinct dark yellowish brown (10YR 4/4) mottles; weak fine granular structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary.

E—5 to 9 inches; grayish brown (10YR 5/2) fine sandy loam; common medium distinct dark yellowish brown (10YR 4/4) mottles; few fine roots; strongly acid; clear smooth boundary.

Bt1—9 to 14 inches; yellowish brown (10YR 5/4) loam; few medium distinct grayish brown (10YR 5/2) mottles; weak medium subangular blocky structure; firm; few fine roots; few fine brown and black concretions; few patchy clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—14 to 27 inches; mottled yellowish brown (10YR 5/8), light brownish gray (10YR 6/2), and brown (10YR 5/3) sandy clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm, slightly compact and brittle in the yellowish brown part in about 20 percent of the matrix; few fine roots; few fine brown and black concretions; patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—27 to 49 inches; mottled pale brown (10YR 6/3), yellowish brown (10YR 5/8), strong brown (7.5YR 5/6), and light brownish gray (10YR 6/2) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm, slightly compact and brittle in about 15 percent of the matrix; few fine roots; few fine brown and black concretions; patchy clay films on faces of peds; common fine pores; fine sand in a few pockets and on faces of some peds; very strongly acid; gradual wavy boundary.

Bt4—49 to 66 inches; mottled grayish brown (10YR 5/2), yellowish brown (10YR 5/8), and yellowish red (5YR 4/8) clay loam; moderate medium subangular blocky structure; firm; few fine roots; patchy clay films on faces of peds; few coatings of fine sand on faces of peds; very strongly acid.

The thickness of the solum exceeds 60 inches. Quitman soils are very strongly acid or strongly acid throughout except in areas that have been limed.

The A1 horizon has hue of 10YR, value of 3 or 4, and chroma of 2. The Ap or E horizon, if present, has hue of 10YR, value of 4 or 5, and chroma of 2. Texture is fine sandy loam, loam, or silt loam.

The Bt1 horizon has hue of 10YR, value of 5 or 6, and chroma of 4 to 8. Mottles of chroma of 2 or less are few or common. Texture is loam, sandy clay loam, or fine sandy loam. The Bt2, Bt3, and Bt4 horizons are mottled in shades of brown, gray, and red. Texture is loam, sandy clay loam, or clay loam. About 10 to 20 percent of some pedons is compact and brittle. This restricts roots in the yellowish brown part of these horizons. The upper 20 inches of the Bt horizon is 18 to 32 percent clay and 25 to 50 percent silt. Brown and black concretions are few or common.

Ruston Series

The Ruston series consists of deep, well drained, gently sloping to sloping soils on uplands. These soils formed in loamy material. Slopes range from 2 to 8 percent. The soils of the Ruston series are fine-loamy, siliceous, thermic Typic Paleudults.

Ruston soils are associated with Lucedale, Savannah, and Smithdale soils. Lucedale soils are on adjacent uplands and have a darker red subsoil. Savannah soils, which are on adjacent stream terraces and uplands, have a fragipan. Smithdale soils, which are on steeper upland hillsides, do not have a bisequum as do the Ruston soils.

Typical pedon of Ruston fine sandy loam, 5 to 8 percent slopes, eroded; about 0.65 mile north of Gholson, 240 feet northwest of fork in road; NE1/4SW1/4 sec. 26, T. 13 N., R. 15 E.

Ap—0 to 4 inches; dark yellowish brown (10YR 4/4) fine sandy loam; mixed with fragments of yellowish red (5YR 4/6) from the Bt1 horizon; weak fine granular structure; very friable; common fine roots; strongly acid; clear smooth boundary.

Bt1—4 to 24 inches; yellowish red (5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; few fine roots; continuous clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—24 to 31 inches; yellowish red (5YR 5/6) loam; moderate fine and medium subangular blocky structure; friable; few fine roots; patchy clay films on faces of some peds; very strongly acid; gradual wavy boundary.

B/E—31 to 42 inches; yellowish red (5YR 5/8) loamy sand; weak fine granular structure; friable; few medium and coarse mottles of yellowish brown (10YR 5/4); some clean sand grains; most sand grains bridged and coated with clay; very strongly acid; clear wavy boundary.

Bt—42 to 75 inches; red (2.5YR 4/6) sandy clay loam; weak fine subangular blocky structure; firm; few thin patchy clay films on faces of peds; very strongly acid.

The thickness of the solum exceeds 60 inches. The B/E horizon is definitive for the series. Ruston soils are very strongly acid or strongly acid throughout except in areas that have been limed.

The Ap horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 2 to 4.

The A1 horizon, if present, has hue of 10YR, value of 4, and chroma of 2 or 3.

The Bt1 and Bt2 horizons have hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 to 8. Texture is sandy clay loam, loam, or clay loam. The upper 20 inches of the Bt horizon is 18 to 30 percent clay and more than 15 percent sand coarser than very fine sand.

The Bt horizon has colors and textures similar to the Bt1 and Bt2 horizons and has mottles in shades of brown. Clay content decreases from the Bt1 and Bt2 horizons to the B/E horizon but increases in the Bt horizon. The B/E horizon has hue of 10YR, value of 5 or 6, and chroma of 3 or 4.

Savannah Series

The Savannah series consists of deep, moderately well drained, nearly level to strongly sloping soils that have a fragipan. These soils formed in loamy material on uplands and stream terraces. Slopes range from 0 to 12 percent. The soils of the Savannah series are fine-loamy, siliceous, thermic Typic Fragiudults.

Savannah soils are associated with Longview, Prentiss, and Ruston soils. Longview soils, which are on lower lying uplands, have mottles of chroma of 2 or less in the upper part of the B horizon and have a fine-silty control section. Prentiss soils, which are on adjacent and lower lying stream terraces and uplands, have a coarse-loamy control section. Ruston soils, which are on adjacent uplands, have a reddish subsoil and do not have a fragipan.

Typical pedon of Savannah fine sandy loam, 2 to 5 percent slopes; about 1 mile east of Gholson, 140 feet south of Mississippi State Highway 21, and 30 feet east of a gravel road; NW1/4SE1/4 sec. 36, T. 13 N., R. 15 E.

Ap—0 to 6 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; very strongly acid; clear smooth boundary.

Bt—6 to 20 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; few fine roots; sand grains bridged and coated with clay; patchy clay films on faces of some peds; very strongly acid; clear smooth boundary.

Btx1—20 to 29 inches; yellowish brown (10YR 5/6) loam; few fine and medium distinct yellowish red (5YR 4/8) and few fine distinct light brownish gray mottles; weak very coarse prismatic structure parting to moderate fine and medium subangular blocky; firm, compact and brittle in about 70 percent of the mass; few fine roots in seams and between prisms; few fine brown and black concretions; patchy clay films on faces of peds and in pores; narrow vertical seams and pockets of light gray fine sandy loam; strongly acid; gradual wavy boundary.

Btx2—29 to 46 inches; mottled yellowish brown (10YR 5/6), brownish yellow (10YR 6/8), red (2.5YR 4/8), and light gray (10YR 7/2) sandy clay loam; weak very coarse prismatic structure parting to weak medium subangular and platy; firm, compact and brittle in about 70 percent of the mass; few fine roots in seams and between prisms; few fine brown and black concretions; common fine pores; patchy

clay films on faces of peds; few narrow seams and pockets of light gray fine sandy loam; strongly acid; gradual wavy boundary.

Btx3—46 to 70 inches; mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and light gray (10YR 7/2) sandy clay loam; weak very coarse prismatic structure parting to weak medium and coarse subangular blocky and blocky; firm, compact and brittle in about 70 percent of the mass; few fine brown and black concretions; patchy clay films on faces of some peds; strongly acid.

The thickness of the solum exceeds 60 inches. Depth to the fragipan ranges from 16 to 36 inches. The soils are very strongly acid or strongly acid throughout except in areas where the surface layer has been limed.

The Ap horizon has hue of 10YR, value of 4, and chroma of 2 or 3 or hue of 10YR, value of 5, and chroma of 3 to 6. The E horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 or 4.

The Bt horizon has hue of 7.5YR or 10YR, value of 5, and chroma of 4 to 8. Texture is loam or sandy loam. The control section is 18 to 30 percent clay.

The Btx horizon is mottled in shades of brown, red, and gray, or it has hue of 10YR, value of 5, and chroma of 6 or 8. Mottles are in shades of gray and red. Texture is loam, sandy clay loam, or clay loam.

Sessum Series

The Sessum series consists of deep, poorly drained soils on nearly level uplands. These soils formed in acid clayey material and the underlying marl or chalk. Slopes range from 0 to 2 percent. The soils of the Sessum series are fine, montmorillonitic, thermic Vertic Ochraqualfs.

Sessum soils are associated with Kipling soils. Kipling soils, which are on adjacent uplands, have a dominantly brownish subsoil with grayish mottles.

Typical pedon of Sessum silty clay, 0 to 2 percent slopes; about 1.8 miles south of Shuqualak, 500 yards west of U.S. Highway 45; NE1/4NW1/4 sec. 27, T. 13 N., R. 17 E.

Ap—0 to 6 inches; dark grayish brown (2.5Y 4/2) silty clay; common fine faint grayish brown mottles; moderate fine and medium granular structure; friable, plastic and sticky; many fine roots; few fine brown and black concretions; few medium charcoal fragments; strongly acid; clear smooth boundary.

Btg1—6 to 10 inches; grayish brown (2.5Y 5/2) clay; few fine distinct yellowish brown mottles; moderate fine and medium subangular blocky structure; firm, plastic and sticky; common fine roots; few fine brown and black concretions; many cracks and wormholes filled with grayish brown Ap material; pressure faces or clay films on faces of some peds; very strongly acid; clear smooth boundary.

Btg2—10 to 24 inches; grayish brown (2.5Y 5/2) clay; many fine and medium distinct yellowish brown (10YR 5/6) mottles; moderate fine and medium angular and subangular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; few cracks filled with grayish brown Ap material; pressure faces or clay films on faces of some peds; very strongly acid; gradual wavy boundary.

Btg3—24 to 40 inches; light brownish gray (2.5Y 6/2) clay; few fine and medium distinct yellowish brown (10YR 5/6) and pale brown (10YR 6/3) mottles; moderate fine and medium subangular and angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; pressure faces or clay films on faces of some peds; few fine and medium nonintersecting slickensides; very strongly acid; gradual wavy boundary.

Btg4—40 to 54 inches; grayish brown (2.5Y 5/2) silty clay; common fine and medium distinct olive (5Y 5/3) and few fine distinct yellowish brown mottles; some wedge-shaped fragments parting to fine and medium angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; common medium and coarse intersecting slickensides very strongly acid; gradual wavy boundary.

BC—54 to 60 inches; mottled olive gray (5Y 5/2), olive (5Y 5/3), and light olive brown (2.5Y 5/4) clay; intersecting slickensides that form coarse wedge-shaped natural fragments; firm, very plastic and very sticky; common fine and medium brown and black concretions and soft enriched spots; very strongly acid; clear wavy boundary.

C—60 to 70 inches; mottled grayish brown (2.5Y 5/2), light olive brown (2.5Y 5/4), and strong brown (7.5YR 5/8) marly clay; massive; firm, plastic and sticky; many fine to coarse white lime nodules; neutral.

The thickness of the solum ranges from 43 to 65 inches. Reaction ranges from very strongly acid to medium acid in the A and B horizons and from medium acid to moderately alkaline in the underlying C horizon.

The A horizon has hue 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3.

The upper part of the Bt horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2 with mottles in shades of brown. The lower part of the Bt horizon and the BC and C horizons have colors similar to those in the upper part of the Bt horizon. These horizons also have hue of 2.5Y, value of 4 or 5, and chroma of 4; or they are mottled in shades of brown, olive, and gray. The Bt horizon is silty clay or clay. The clay content of the control section ranges from 40 to 60 percent.

Smithdale Series

The Smithdale series consists of deep, well drained, strongly sloping to steep soils on upland hillsides. These soils formed in loamy material. Slopes range from 8 to 35 percent. The soils of the Smithdale series are fine-loamy, siliceous, thermic Typic Hapludults.

Smithdale soils are associated with Lucy, Ruston, and Sweatman soils. Lucy soils are on adjacent uplands but have a sandy surface layer more than 20 inches thick. Ruston soils are on upland ridgetops and upper hillsides and have a bisequal profile. Sweatman soils are mostly on lower upland hillsides and have a clayey subsoil.

Typical pedon of Smithdale sandy loam, in an area of Smithdale-Lucy association, hilly; about 0.75 mile northeast of Gholson, on the south side of a gravel road; NE1/4NE1/4 sec. 34, T. 13 N., R. 15 E.

A—0 to 7 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear wavy boundary.

BA—7 to 12 inches; dark brown (7.5YR 4/4) sandy loam; weak fine subangular blocky and granular structure; friable; common fine and medium roots; very strongly acid; gradual smooth boundary.

Bt1—12 to 36 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; few fine and medium roots; few medium dark spots; patchy clay film on faces of peds; strongly acid; gradual smooth boundary.

Bt2—36 to 45 inches; red (2.5YR 4/6) sandy clay loam; few coarse strong brown (7.5YR 5/6) spots; moderate medium subangular blocky structure; firm; few fine mica flakes; few fine roots; few medium dark reddish brown (5YR 3/3) enriched spots; patchy clay films on faces of peds; few clean sand grains; very strongly acid; gradual smooth boundary.

Bt3—45 to 62 inches; red (2.5YR 4/6) sandy loam; few medium strong brown (7.5YR 5/6) spots; weak fine and medium subangular blocky structure; friable; few dark enriched spots; patchy clay films on faces of some peds; few pockets of clean sand grains; few coarse sand stones; very strongly acid; gradual smooth boundary.

Bt4—62 to 80 inches; red (2.5YR 4/6) sandy loam; weak fine subangular blocky structure; few thin patchy clay films on peds; sand grains bridged and coated with clay; few clean sand grains; few coarse sand stones; strongly acid.

The thickness of the solum exceeds 60 inches. Reaction is very strongly acid or strongly acid throughout except where the surface layer has been limed.

The A horizon has hue of 7.5YR or 10YR, value of 4, and chroma of 1 to 3. The Ap horizon, if present, has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 to 6.

The E horizon, if present, has hue of 10YR, value of 5 or 6, and chroma of 2 to 4. Texture is fine sandy loam or sandy loam.

Some pedons have a BA or BE horizon that has hue of 7.5YR, 10YR, or 5YR, value of 4 or 5, and chroma of 4 to 8. The range in texture is the same as for the E horizon.

The upper part of the Bt horizon has hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 to 8. Some pedons have few to many mottles in shades of red and brown. Texture is clay loam, sandy clay loam, or loam. The upper 20 inches of the Bt horizon is 18 to 33 percent clay and 15 to 45 percent silt. The lower part of the Bt horizon has the same range in color as the upper part except that it commonly has from few to many pockets of pale brown to brownish yellow sand grains. Texture is loam or sandy loam.

Stough Series

The Stough series consists of deep, somewhat poorly drained soils on nearly level to gently sloping uplands and stream terraces. These soils formed in loamy material. Slopes range from 0 to 5 percent. The soils of the Stough series are coarse-loamy, siliceous, thermic Fragiaquic Paleudults.

Stough soils are associated with Prentiss, Quitman, Talla, and Vimville soils. Prentiss soils, which are on higher uplands and stream terraces, are better drained but have a similar control section. Quitman soils, which are in adjacent areas on stream terraces, have a fine-loamy control section. Talla soils, which are in adjacent areas on uplands and stream terraces, have a natric horizon and a fine-loamy control section. Vimville soils, which are on lower flats and in depressions on uplands and stream terraces, are poorly drained and have a fine-loamy control section.

Typical pedon of Stough fine sandy loam, 0 to 2 percent slopes; about 2 miles southwest of Mashulaville Baptist Church and 200 yards north of blacktop road in edge of woods; SE1/4NW1/4 sec. 16, T. 14 N., R. 15 E.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) fine sandy loam; common fine distinct brown mottles; weak fine granular structure; friable; many fine roots; few fine brown and black concretions; strongly acid; clear smooth boundary.

E/B—4 to 8 inches; mottled dark grayish brown (10YR 4/2), grayish brown (10YR 5/2), and yellowish brown (10YR 5/6) fine sandy loam; weak fine granular structure, and fine and medium subangular blocky structure; friable; common fine roots; few fine brown and black concretions; sand grains bridged and coated with clay; strong brown (7.5YR 5/6) stains on some peds; very strongly acid; clear smooth boundary.

Bt—8 to 18 inches; mottled yellowish brown (10YR 5/4), pale brown (10YR 6/3), and light brownish gray (10YR 6/2) fine sandy loam; weak fine and medium subangular blocky structure; friable; few fine roots; few fine brown and black concretions; few fine pores; sand grains bridged and coated with clay; very strongly acid; clear wavy boundary.

Btx1—18 to 32 inches; mottled yellowish brown (10YR 5/4), light brownish gray (10YR 6/2), and strong brown (7.5YR 5/6) loam; weak coarse prismatic structure parting to moderate medium subangular blocky; friable, brown part comprising 40 to 50 percent of volume compact and brittle; few fine roots in gray seams; few fine brown and black concretions; patchy clay films on faces of some peds; gray seams of fine sandy loam between prisms; very strongly acid; clear wavy boundary.

Btx2—32 to 41 inches; mottled yellowish brown (10YR 5/4), light brownish gray (10YR 6/2), and strong brown (7.5YR 5/6) sandy clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm, brown part comprising 40 to 50 percent of volume compact and brittle; few fine brown and black concretions; patchy clay films on faces of some peds; common fine pores in some areas; gray seams of fine sandy loam between prisms; very strongly acid; gradual wavy boundary.

Btx3—41 to 60 inches; mottled yellowish brown (10YR 5/6), light brownish gray (10YR 6/2), and strong brown (7.5YR 5/6) sandy clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; brown part comprising 40 to 50 percent of volume compact and brittle; few fine brown and black concretions; patchy clay films on faces of some peds; gray seams of sandy loam between prisms; very strongly acid.

The thickness of the solum exceeds 60 inches. The soils are very strongly acid or strongly acid throughout except in areas that have been limed.

The A horizon has hue of 10YR, value of 4, and chroma of 1 or 2. The Ap horizon has hue of 10YR, value of 4, and chroma of 1 to 3.

The E/B horizon, if present, is mottled in shades of brown and gray.

The Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 4 to 6. Mottles of chroma of 2 or less are few to many, or the Bt horizon is mottled in shades of brown and gray. The Btx part of the Bt horizon is brittle and compact and restricts roots in the browner part which is about 40 to 55 percent of the volume. The upper part of the Bt horizon is fine sandy loam, loam, or sandy loam. The upper 20 inches of the Bt horizon is 8 to 18 percent clay and more than 20 percent silt. The lower part of the Bt horizon has a similar texture range but includes sandy clay loam. Brown and black concretions range from none to common.

Sumter Series

The Sumter series consists of deep to moderately deep to chalk, well drained soils on gently sloping to steep uplands. These soils formed in marly clay underlain by chalk. Slopes range from 2 to 25 percent. The soils of the Sumter series are fine-silty, carbonatic, thermic Rendollic Eutrochrepts.

Sumter soils are associated with Demopolis, Okolona, and Oktibbeha soils. Demopolis soils, which are mostly in less sloping areas, have firm chalk within 16 inches of the surface and do not have a B horizon. Okolona soils, which are in less sloping areas, have a thick, dark A horizon and are not calcareous throughout. Okitbbeha soils, which are in adjacent areas, have a reddish, acid upper B horizon and have vertic characteristics.

Typical pedon of Sumter silty clay, 5 to 12 percent slopes, eroded; about 5.2 miles west on paved county road from the intersection with U.S. Highway 45 in Brooksville, 1,860 feet south of the county road; SE1/4NE1/4 sec. 22, T. 16 N., R. 16 E.

Ap—0 to 4 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate fine granular structure; friable, plastic and sticky; many fine roots; few fine calcium carbonate nodules; common wormcasts; mildly alkaline; calcareous; clear smooth boundary.

Bw1—4 to 8 inches; light olive brown (2.5Y 5/4) silty clay; moderate fine subangular and angular blocky structure; friable, plastic and sticky; common fine roots; few wormcasts; few fine calcium carbonate nodules; few fine soft lime accumulations; mildly alkaline, calcareous; gradual wavy boundary.

Bw2—8 to 20 inches; light olive brown (2.5Y 5/6) silty clay; moderate medium subangular and angular blocky structure; firm, plastic and sticky; few fine roots; few wormcasts; few fine calcium carbonate nodules; few fine soft lime accumulations; mildly alkaline, calcareous; gradual wavy boundary.

Bw3—20 to 26 inches; light olive brown (2.5Y 5/6) silty clay; many fine and medium distinct yellowish brown (10YR 5/6) and grayish brown (2.5Y 5/2) mottles; moderate fine subangular and angular blocky structure; firm, plastic and sticky; few fine roots; few fine and medium calcium carbonate nodules; moderately alkaline, calcareous; gradual wavy boundary.

Bw4—26 to 38 inches; mottled light olive brown (2.5Y 5/6), yellowish brown (10YR 5/6), and light brownish gray (10YR 6/2) silty clay; moderate medium angular blocky structure; firm, plastic and sticky; few fine roots; few fine and medium calcium carbonate nodules; moderately alkaline, calcareous; clear wavy boundary.

Cr—38 to 50 inches; firm chalk.

The thickness of the solum over marly clay or chalk ranges from 20 to 39 inches.

The A horizon has hue of 5Y, 2.5Y or 10YR, value of 3 to 5, and chroma of 2. The soil is mildly alkaline or moderately alkaline throughout.

The upper part of the Bw horizon has hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 3 to 6. Some pedons have few or common mottles in shades of brown or yellow. The lower part of the Bw horizon has the same color range as the upper part or is mottled in shades of yellow, brown, and gray. Soft lime accumulations and hardened calcium carbonate nodules are few or common. Texture is silty clay or clay.

The C horizon, if present, has hue of 2.5Y, value of 5 or 6, and chroma of 2. It has many mottles in shades of yellow, brown, and olive, or it is mottled in shades of brown, gray, yellow, or olive. Fragments of firm chalk, if present, are few to many.

The Cr horizon has hue of 2.5Y or 5Y, value of 6 or 7, and chroma of 1 to 3. It has mottles in shades of yellow and brown along cracks and seams. It is firm chalk which can be cut with some difficulty with a spade.

Sweatman Series

The Sweatman series consists of well drained soils on sloping to steep uplands. These soils formed in stratified shaly clay and loamy sediment. They are moderately deep to stratified weathered shale. Slopes range from 15 to 35 percent. The soils of the Sweatman series are clayey, mixed, thermic Typic Hapludults.

Sweatman soils are associated with Smithdale and Wilcox soils. Smithdale soils, which are on similar and higher side slopes, have a fine-loamy control section. Wilcox soils, which are on similar and lower side slopes, are clayey throughout and have base saturation, by sum of cations, of 35 percent or more at 50 inches below the upper boundary of the Bt horizon.

Typical pedon of Sweatman silt loam, in an area of Sweatman-Smithdale association, hilly; about 3.5 miles southwest of Mashulaville, 3,000 feet west of a blacktop road, 650 feet east of fork in log road; NE1/4SE1/4 sec. 29, T. 14 N., R. 15 E.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable; many fine roots; very strongly acid; clear smooth boundary.

A2—4 to 8 inches; brown (7.5YR 5/4) silt loam; moderate medium granular structure; friable; common fine roots; common fine and medium gravel; very strongly acid; clear smooth boundary.

Bt1—8 to 19 inches; red (2.5YR 4/6) silty clay; few fine distinct brown mottles; moderate medium subangular and angular blocky structure; firm, plastic and sticky; few fine to coarse roots; patchy clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—19 to 27 inches; red (2.5YR 4/6) silty clay; moderate fine and medium angular blocky structure; firm, plastic and sticky; few fine roots; common fine and medium grayish partially weathered shale fragments; patchy clay films on faces of peds; very strongly acid; gradual smooth boundary.

BC—27 to 38 inches; mottled red (2.5YR 4/6) and strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; common fine and medium grayish partially weathered shale fragments; common flakes of mica; patchy clay films or pressure faces on peds; very strongly acid; gradual smooth boundary.

C—38 to 60 inches; mottled grayish brown (2.5Y 5/2) and brownish yellow (10YR 6/6) weathered shale with thin layers and pockets of very fine sand and silt loam; massive; firm; common fine flakes of mica; yellowish red (5YR 4/6) stains on faces of some peds; very strongly acid.

The thickness of the solum commonly is 20 to 40 inches but ranges to 48 inches. The soils are very strongly acid or strongly acid throughout except in areas where the surface layer has been limed.

The A horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 2 to 4. It is silt loam, fine sandy loam, or loam.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. Some pedons have brownish mottles in the lower part of the Bt horizon. Texture is silty clay loam, silty clay, or clay. Clay content in the upper 20 inches averages from 35 to 55 percent, and the silt content averages from 30 to 50 percent. Soft, weathered, grayish shale fragments range from none to many.

The BC horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 to 8, or it is mottled in shades of red and brown. Texture is sandy loam, silty clay loam, clay loam, clay, or silty clay. Soft, weathered, grayish shale fragments range from few to many.

The C horizon has colors in shades of red, gray, yellow, and brown. Texture is stratified fine sandy loam, sandy clay loam, or loam with soft, weathered shale rich in mica.

Talla Series

The Talla series consists of deep, somewhat poorly drained soils on nearly level stream terraces. These soils formed in loamy material that contains concentrations of exchangeable sodium in the subsoil. Slopes range from 0 to 2 percent. The soils of the Talla series are fine-loamy, siliceous, thermic Glossic Natrudalfs.

Talla soils are associated with Stough and Vimville soils. Stough soils, which are in adjacent areas, do not have a natric horizon and have a coarse-loamy control section. Vimville soils, which are on lower flats and in

depressions, are dominantly gray from the surface layer to a depth of 30 inches.

Typical pedon of Talla loam, 0 to 2 percent slopes; about 5.5 miles west of Brooksville, 135 feet south of east fork in road, 78 feet west of a gravel road; SW1/4SE1/4 sec. 20, T. 16 N., R. 16 E.

Ap—0 to 6 inches; brown (10YR 5/3) loam; few fine distinct light yellowish brown mottles; weak fine granular structure; friable; common fine roots; few fine brown and black concretions; slightly acid; clear irregular boundary.

E/B—6 to 12 inches; brown (10YR 5/3) loam; few fine faint grayish brown mottles; B part, about 40 percent of the volume, mottled dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4) loam; weak fine granular and subangular blocky structure; friable; common fine roots; few fine black concretions; few medium charcoal fragments; few clean sand grains in E part; strongly acid; clear irregular boundary.

Btn/E1—12 to 29 inches; mottled grayish brown (10YR 5/2), yellowish brown (10YR 5/6), and strong brown (7.5YR 5/6) loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; thick clay films on faces of peds; silt and fine sand coatings on faces of some prisms; tongues of light yellowish brown and light brownish gray fine sandy loam up to 4 inches wide and 8 to 10 inches apart; few medium charcoal fragments in tongues; very strongly acid; gradual irregular boundary.

Btn/E2—29 to 46 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/6), and strong brown (7.5YR 5/6) clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; very firm; few fine roots; few medium brown and black concretions; continuous clay films on faces of peds; some pale brown stains; tongues of light yellowish brown fine sandy loam up to 2 inches wide and 8 to 10 inches apart; few fine white spots of barite; mildly alkaline; gradual wavy boundary.

Btn—46 to 60 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/6), and yellowish red (5YR 5/6) clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; common fine black concretions; patchy clay films on faces of peds; few seams of light yellowish brown fine sandy loam; moderately alkaline.

The combined thickness of the A and E/B horizons ranges from 5 to 13 inches. The thickness of the solum exceeds 60 inches. Exchangeable sodium percentage increases with depth and is more than 15 percent within 16 inches of the top of the argillic horizon. The soils are very strongly acid or strongly acid in the A and E/B horizons and the upper part of the B/E horizon except in areas where the surface layer has been limed. The lower part of the B/E horizon and the Bt horizon ranges from very strongly acid to moderately alkaline.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Some pedons have brownish mottles.

The E part of the horizon has hue of 10YR, value of 5 or 6, and chroma of 2 through 4. Texture is fine sandy loam, loam, or silt loam.

The B part of the horizon has hue of 10YR, value of 4 or 5, and chroma of 4 to 6. Mottles are in shades of gray, or they are mottled in shades of brown, gray, and red. Texture is loam, sandy clay loam, or clay loam.

The soils in this county are taxadjuncts to the Talla series. They typically have a thinner surface layer than that defined for the Talla series, and the lower part of the subsoil is more alkaline.

Urbo Series

The Urbo series consists of deep, somewhat poorly drained soils on nearly level flood plains. These soils formed in clayey alluvium. Slopes range from 0 to 2 percent. The soils of the Urbo series are fine, mixed, acid, thermic Aeric Haplaquepts.

Urbo soils are associated with the Mantachie and Mooreville soils on flood plains. Mantachie soils, which are generally in slightly higher areas, have a fine-loamy control section. Mooreville soils, which are in slightly higher areas near the stream channel, have a browner subsoil and a fine-loamy control section.

Typical pedon of Urbo silty clay loam, occasionally flooded, in a field about 9 miles northwest of Macon, 0.75 mile west of the Noxubee River, 1 mile south of a gravel road, 210 feet south of the section line, and 25 feet west of a field road; NE1/4NW1/4 sec. 12, T. 15 N., R. 15 E.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine granular structure; friable; common fine roots; medium acid; clear smooth boundary.

Bg1—5 to 13 inches; dark grayish brown (10YR 4/2) silty clay; many fine and medium distinct dark yellowish brown (10YR 4/4) mottles; weak medium prismatic structure parting to moderate medium subangular blocky; firm, plastic and sticky; few fine roots; few fine black and brown concretions; very strongly acid; gradual wavy boundary.

Bg2—13 to 37 inches; dark grayish brown (10YR 4/2) silty clay; common fine and medium distinct brown (7.5YR 4/4) mottles; weak medium prismatic structure parting to moderate fine and medium subangular and angular blocky; firm, plastic and sticky; few fine roots; few pressure faces on peds; few fine black and brown concretions; very strongly acid; gradual wavy boundary.

Bg3—37 to 55 inches; dark grayish brown (10YR 4/2) clay; common medium distinct yellowish brown (10YR 5/8) mottles; moderate medium angular and subangular blocky structure; firm, plastic and sticky; few fine roots; few pressure faces on peds; few coarse nonintersecting slickensides; few fine black and brown concretions; very strongly acid; gradual wavy boundary.

Bg4—55 to 70 inches; dark grayish brown (10YR 4/2) clay; many fine and medium distinct brown (10YR 4/3) mottles; weak medium subangular and angular blocky structure; firm, plastic and sticky; few fine roots; few non-intersecting slickensides; few fine black and brown concretions; very strongly acid.

The thickness of the solum exceeds 60 inches. The soils are very strongly acid or strongly acid throughout except in areas where the surface layer has been limed.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. Some pedons have a very thin A horizon that has hue of 10YR, value of 3, and chroma of 2. Some pedons have an overwash of material of coarser texture that is less than 10 inches thick.

The Bg1 horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Mottles in shades of gray or brown commonly are few to many. The lower part of the Bg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. Mottles in shades of red, brown, yellow, or gray are few to many. The B horizon is silty clay loam, silty clay, or clay. The 10- to 40-inch particle-size control section is 35 to 55 percent clay. A few patches of oriented clay are in pores and cracks. Black and brown concretions are few or common throughout.

Vaiden Series

The Vaiden series consists of deep, somewhat poorly drained, nearly level to sloping soils on uplands. They formed in acid, clayey material underlain by chalk. Slopes range from 0 to 8 percent. The soils of the Vaiden series are very fine, montmorillonitic, thermic Vertic Hapludalfs.

Vaiden soils are associated with Brooksville and Kipling soils. These soils are on adjacent uplands. Brooksville soils have a thick, dark A horizon and are less acid in the upper part of the solum. Kipling soils are less than 60 percent clay in the upper 20 inches of the B horizon.

Typical pedon of Vaiden silty clay, 0 to 2 percent slopes; about 2.5 miles west of the Alabama State line, 1,200 feet south of Mississippi Highway 14, 50 feet west of a sharp curve in a gravel road; NW1/4SE1/4 sec. 17, T. 14 N., R. 19 E.

Ap—0 to 6 inches; brown (10YR 4/3) silty clay; few spots of yellowish brown (10YR 5/6) from lower horizon; moderate fine granular structure; friable, plastic and sticky; common fine roots; few fine brown and black concretions; strongly acid; clear smooth boundary.

Bt1—6 to 17 inches; yellowish brown (10YR 5/6) clay; common fine and medium distinct light brownish gray (10YR 6/2) and few medium prominent yellowish red (5YR 5/6) mottles; moderate medium angular and subangular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; pressure faces on some peds; very strongly acid; gradual wavy boundary.

Bt2—17 to 36 inches; mottled yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) clay; moderate fine and medium angular blocky structure; firm, very plastic and very sticky; few fine roots; few fine brown and black concretions; few nonintersecting slickensides; medium acid; gradual wavy boundary.

C—36 to 60 inches; mottled yellowish brown (10YR 5/8) and light brownish gray (2.5Y 5/2) clay; many coarse intersecting slickensides with grayish brown (2.5Y 6/2) faces that form wedge-shaped aggregates parting to moderate fine angular blocky structure; firm, very plastic and very sticky; grooved shiny faces on slickensides; few fine roots; common fine brown and black concretions; mildly alkaline.

Thickness of the soil over alkaline material ranges from about 40 to 96 inches. Intersecting slickensides are at a depth of 24 inches or more. The surface layer and the subsoil range from very strongly acid to medium acid except in areas where the surface layer has been limed. The C horizon ranges from very strongly acid to mildly alkaline. Black and brown concretions are few or common. Calcium carbonate nodules range from few to many in the lower part of the C horizon.

The A horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. Eroded pedons may have value of 4 and chroma of 4.

The Bt horizon has hue of 10YR, value of 4 or 5, and chroma of 4 to 8 and has mottles in shades of gray, brown, and red; or this horizon is mottled in shades of brown, gray, and red. The upper 10 inches of the Bt horizon has few to many mottles that have chroma of 2 or less. Texture is clay or silty clay. The upper 20 inches of the Bt horizon averages 60 to 70 percent clay.

The C horizon is mottled in shades of gray, brown, and yellow, or it has a gray matrix with mottles in shades of brown and yellow. Texture is clay or silty clay.

Vimville Series

The Vimville series consists of deep, poorly drained soils on nearly level uplands and stream terraces. These soils formed in loamy material. Slopes range from 0 to 2 percent. The soils of the Vimville series are fine-loamy, siliceous, thermic Typic Glossaqualfs.

Vimville soils are associated with Stough, Quitman, and Talla soils. Stough and Talla soils are on slightly higher uplands and stream terraces. Quitman soils are on slightly higher areas on stream terraces. Stough soils a browner subsoil and a coarse-loamy control section. Quitman soils have a browner subsoil and have less than 35 percent base saturation in the lower part of the subsoil. Talla soils have a browner subsoil and have a natric horizon in the upper part of the subsoil.

Typical pedon of Vimville loam, 0 to 2 percent slopes; about 3 miles northwest of Macon, 5,900 feet west of a gravel road, 10 feet north of a field road; SW1/4SW1/4 sec. 15, T. 15 N., R. 16 E.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; friable; common fine roots; strongly acid; clear smooth boundary.

E—6 to 10 inches; grayish brown (10YR 5/2) loam; common fine and medium distinct light gray (10YR 7/2) and yellowish brown (10YR 5/6) mottles; weak fine granular structure; friable; common fine roots; very strongly acid; gradual irregular boundary.

B/E—10 to 19 inches; grayish brown (10YR 5/2) loam (B); common fine and medium distinct yellowish brown (10YR 5/6) mottles; weak coarse prismatic structure parting to medium subangular blocky; few fine roots; few patchy clay films on faces of peds; about 20 percent tongues and pockets of light gray (10YR 7/2) very fine sandy loam (E); very strongly acid; gradual irregular boundary.

Btg1—19 to 36 inches; grayish brown (2.5Y 5/2) clay loam; common fine and medium distinct yellowish brown (10YR 5/6) and light yellowish brown (2.5Y 6/4) mottles; weak coarse prismatic structure parting to moderate medium subangular blocky; few fine roots; patchy clay films on faces of peds; few seams and pockets of light gray (10YR 7/2) very fine sandy loam; very strongly acid; gradual wavy boundary.

Btg2—36 to 47 inches; grayish brown (2.5Y 5/2) clay loam; common fine and medium distinct light olive brown (2.5Y 5/6) mottles; weak coarse prismatic structure parting to moderate medium subangular blocky; few fine roots; patchy clay films on faces of peds; few seams and pockets of light gray (10YR 7/2) very fine sandy loam; very strongly acid; gradual wavy boundary.

Btg3—47 to 65 inches; grayish brown (2.5Y 5/2) clay loam; common medium and coarse yellowish brown (10YR 5/8) mottles; weak medium prismatic structure parting to moderate fine and medium subangular blocky; few fine roots; patchy clay films on faces of peds; many fine gypsum crystals mostly in seams; few seams and pockets of light gray very fine sandy loam; mildly alkaline.

The thickness of the solum exceeds 60 inches. The A and E horizons are very strongly acid to slightly acid. The upper part of the Bt horizon is very strongly acid to neutral, and the lower part of the Bt horizon is medium acid to mildly alkaline.

If present, the A horizon has hue of 10YR, value of 4, and chroma of 2.

The Ap and E horizons have hue of 10YR, value of 4 through 7, and chroma of 1 or 2 with mottles in shades of brown or gray. Texture of the E horizon is loam or fine sandy loam.

The Btg horizon has hue of 10YR or 2.5Y, value of 5 through 7, and chroma of 1 or 2. Mottles in shades of brown are few to many. Texture is clay loam, loam, or sandy clay loam. The upper 20 inches of the B horizon, by weighted average, is 18 to 35 percent clay.

Wilcox Series

The Wilcox series consists of deep, somewhat poorly drained soils on gently sloping to steep uplands. These soils formed in clayey marine sediment. Slopes range from 2 to 35 percent. The soils of the Wilcox series are fine, montmorillonitic, thermic Vertic Hapludalfs.

Wilcox soils are associated with Falkner and Sweatman soils. Falkner soils, which are mainly on lower uplands, have a fine-silty control section underlain by clayey lower horizons. Sweatman soils, which are on similar hillsides but higher on the upland landscape, are better drained and are underlain by stratified shale.

Typical pedon of Wilcox silty clay loam, 2 to 5 percent slopes, eroded; about 5 miles west of Shuqualak, 160 feet south of a gravel road. NW1/4NE1/4 sec. 15, T. 13 N., R. 16 E.

Ap—0 to 5 inches; dark brown (10YR 4/3) silty clay loam; few fine faint pale brown mottles; moderate fine granular structure; friable, slightly plastic; many fine roots; many root and worm channels; very strongly acid; abrupt smooth boundary.

Bt1—5 to 8 inches; mottled brown (7.5YR 4/4), pale brown (10YR 6/3), gray (10YR 6/1), and yellowish red (5YR 4/8) silty clay; moderate fine and medium subangular blocky structure; friable, slightly sticky and plastic; many fine roots; many fine root and worm channels; many fine shiny ped faces; clay films in some pores; very strongly acid; clear smooth boundary.

Bt2—8 to 15 inches; mottled yellowish red (5YR 4/8), light brownish gray (10YR 6/2), and grayish brown (2.5Y 5/2) silty clay; strong fine and medium subangular and angular blocky structure; firm, plastic and sticky; many fine roots; few medium brown concretions; many fine shiny ped faces; clay films in some pores; very strongly acid; clear wavy boundary.

Btg—15 to 33 inches; mottled light brownish gray (2.5Y 6/2), red (10R 4/8), and light olive brown (2.5Y 5/6) silty clay; strong fine and medium angular and

subangular blocky structure; firm, sticky and plastic; many fine roots; root and worm channels filled with gray (10YR 6/1) clay; few small pebbles; few nonintersecting slickensides; many fine shiny ped faces; clay films in some pores; very strongly acid; gradual wavy boundary.

BCg—33 to 50 inches; mottled gray (5Y 5/1), yellowish brown (10YR 5/8), and yellowish red (5YR 4/8) clay; moderate fine and medium angular and subangular blocky structure; firm, sticky and very plastic; common fine roots; common medium to coarse nonintersecting slickensides; many fine shiny ped faces; very strongly acid; abrupt wavy boundary.

C1—50 to 57 inches; mottled gray (5Y 5/1), yellowish brown (10YR 5/8), and yellowish red (5YR 4/8) clay; intersecting slickensides that form angular and wedge-shaped fragments; firm, sticky and very plastic; common fine roots; few partially weathered fragments of shale; extremely acid; abrupt wavy boundary.

C2—57 to 73 inches; gray (10YR 5/1) and olive (5Y 5/3) soft, weathered shale; extremely acid; few roots in shale.

The thickness of the solum ranges from 29 to 55 inches. Depth to shale ranges from 40 to 70 inches. Wilcox soils range from extremely acid to strongly acid throughout except where the surface layer has been limed.

The A horizon has hue of 10YR, value 3 or 4, and chroma of 1 to 3.

The Bt horizon has hue of 2.5YR, value of 4 or 5, and chroma of 4; or hue of 5YR, value of 4 or 5, and chroma of 4 to 8; or hue of 7.5YR, value of 5, and chroma of 6 to 8. Gray mottles are few to many, or the Bt horizon is mottled in shades of brown, red, and gray. In some pedons, the lower part of the Bt horizon has a gray matrix. Texture is silty clay loam, silty clay, or clay. The upper 20 inches of the Bt horizon has 38 to 60 percent clay.

The BCg and C horizons have a grayish matrix that has mottles in shades of gray, brown, olive, or red, or they are mottled in these colors. The shale can be cut with a spade.

Formation of the Soils

In this section, the factors that affect the formation of the soil are discussed. In addition, the processes of soil formation are described.

The thickness of the soil ranges from a few inches in some locations to several feet in others. Soil varies in color, texture, fertility, and other properties, although, it mainly is a mixture of minerals, organic matter, water, and air.

Factors of Soil Formation

Different kinds of soils result from the action and interaction of climate and living organisms acting on parent materials as conditioned by relief and drainage over a long period of time. A soil at any location has been formed under the influence of these five environmental factors: parent material, climate, relief and drainage, living organisms, and time. The relative influence of each factor varies from place to place.

In Noxubee County, parent material has had a strong influence on the nature of the soils. This is evident in the differences between soils in the two distinct Major Land Resource Areas in the county. There are also visible and measurable soil properties that reflect the influence of relief and drainage, such as the gray colors in the Sessum and Vimville soils.

Soil development has two major steps or parts. The first step is the accumulation or deposition of soil material, and the second step is the formation of horizons to form definite soil profiles. The horizons emerge slowly as changes occur in the parent material. Thus, some profiles have faint horizons, some have distinct horizons, and some have prominent horizons. Under favorable conditions, horizons change from faint to distinct with the passage of time and increase in number. The number and distinctness of horizons enable soil scientists to determine the age of a soil or to determine the stage of development the soil has reached.

Parent Material

The parent material of Noxubee County is of marine or Coastal Plain origin except the more recent alluvial sediment in valleys and on terraces along streams.

A large part of the eastern two-thirds of the county is underlain by chalks and marls, which are generally referred to as the "Selma Group." This area, one of four physiographic types in the county, is known as the Blackland Prairie. The main geologic formations influencing the parent material in this area are the Mooreville Formation, Demopolis Chalk, and Prairie Bluff Chalk.

The soils in this part of the county formed in marl or chalk and in the clays over the marl. Many of these soils, such as Brooksville and Okolona soils, have inherited a high content of montmorillonitic clay and calcium carbonate and a fairly high level of plant nutrients. Such properties influence the productivity, the engineering properties, and the use and management of the soils. The soils of the Blackland Prairie are greatly different from the other soils of the county in color, texture, reaction, and natural fertility.

The soils in the west and west-central parts of the county, mainly west of the Noxubee River in the north and central parts and west of U.S. Highway 45 to the south, formed in sediment of the Porters Creek Clay. From this dominantly acid, fine textured parent material, soils formed that range from silt loams to montmorillonitic clays. These soils are in an area that is locally known as the Flatwoods. Plant nutrients are relatively low in these soils. Most areas are in forest.

The hilly soils in the extreme southwestern part of the county formed in loamy and clayey Coastal Plain sediment of the Wilcox Formation. From this parent material, soils formed that range from loams to clays. Soils, such as Smithdale and Sweatman soils, are highly leached and low in inherent fertility. Most of these steep soils are in woodland.

The Noxubee River and its major tributaries and the Tombigbee River have extensive flood plains. These flood plains and low terraces reflect the nature of their alluvial parent material. The Cahaba, Jena, Mantachie, and Latonia soils are acid and siliceous, and they are similar to the soils on the uplands of the drainage basin. The moderately alkaline Catalpa and Leeper soils in the eastern part of the county are associated with the alkaline, clayey alluvium of the Blackland Prairie. Most of these soils are well suited to cultivated crops, but the hazard of flooding limits the use of the soils for this purpose.

Climate

Climate is a genetic factor that affects the physical, chemical, and biological relationships in the soil, primarily

through the influence of precipitation and temperature. Water dissolves minerals, supports biological activity, and transports mineral and organic residue through the soil profile. The amount of water that percolates through the soil over a broad area depends mainly on the rainfall, the relative humidity, and the length of the frost-free period. Downward percolation is also affected by physiographic position and by soil permeability. In Noxubee County rainfall is abundant, averaging about 55 inches per year. It is slightly heavier in spring and summer than in fall and winter.

The warm temperature influences the kind and growth of organisms and also affects the speed of physical and chemical reactions in the soil. The climate of Noxubee County is warm and moist and probably is similar to the climate that existed when the soils formed. Freezing and thawing in this county have very little effect on weathering and on the soil-forming processes. The effects of climate on soil formation are uniform over the whole county because the climate is the same over the entire area.

Relief and Drainage

Topography affects the drainage and rate of runoff from the soils. Thus, relief influences the moisture content in soils and the erosion that occurs on the surface. The rate of runoff is greater on steep slopes than on gentle or level slopes. This means that the amount of water that moves through the soil during formation depends partly on the relief. Excess moisture is present on and in soils that develop on low and flat topography. This excess water causes gray or mottled colors in the subsoil. In some places, it causes an accumulation of organic matter in the surface layer. The influence of wetness is well expressed in many of the soils in Noxubee County, such as Sessum and Vimville soils.

Fragipan formation is associated with relief and drainage. Fragipans are compact and brittle and are most strongly expressed on level to gently sloping, somewhat poorly drained to moderately well drained soils. Savannah and Prentiss soils have a fragipan. The fragipan governs the depth to which roots, air, and water can penetrate in the soil, as well as the permeability and degree of wetness of the soil. In comparison with the other factors of soil formation, relief and drainage are more local in scope. Their influence on the soils can be observed on small farms. Slope is important in that it limits the use of the soil as well as the productivity of the crops grown.

Living Organisms

Plants and animals, especially the small ones, such as earthworms and insects, living in and on the soil have a direct influence on the nature of soils. Under natural conditions, plants govern the amount and distribution of organic matter in a soil profile.

Under forest conditions, organic matter is added to the soils as leaves and twigs decompose on the surface. Therefore, the accumulation of organic matter under trees is generally confined to the A horizon. The soils on the flood plains and terraces of the Noxubee and Tombigbee Rivers, in the Flatwoods, and in the North Central Hills formed under the forest cover and have this characteristic. In Prentiss, Savannah, Sweatman, and Vaiden soils, for example, most of the organic matter is in the A horizon. Under native grasses, the fibrous roots decay and add organic matter within the profile as deep as the roots grow.

This process causes soils that develop under native grasses to have a thick, dark colored A horizon that extends as deep as 2 feet in the profile. Some of the soils of the Blackland Prairie, for example, the Okolona and the Brooksville soils formed under grasses. These soils have a thick, dark A horizon.

The other soils in Noxubee County formed under trees. Hardwoods, such as post oak, hackberry, red oak, and hickory, formed under Kipling and Vaiden soils and covered the forest sites of the Blackland Prairie. Loblolly and shortleaf pines, oak, and hickory provided the cover for the loamy hill section of the western part of the county.

Time

Many thousands of years are required for most soils to form. The weathering of rocks and other materials precedes the development of soil horizons. Chalks and marls of the Selma Group, which is under the Blackland Prairie, were deposited by the Gulf of Mexico about 70 million years ago. The other geologic formations in Noxubee County are younger than the chalks and marls of the Selma Group.

The soils in Noxubee County have been forming and changing for long periods. The soils along the streams are the youngest in the county because material has been recently deposited on them and is still being deposited. Belden, Catalpa, Griffith, Jena, Leeper, Mantachie, Marietta, Mooreville, Ochlocknee, and Urbo soils are on flood plains in Noxubee County.

Process of Soil Horizon Differentiation

Several processes were involved in the formation of soil horizons in the soils of Noxubee County. These processes are the accumulation of organic matter, the leaching of calcium carbonates and bases, the reduction and transfer of iron, and the formation and translocation of silicate clay minerals. In most soils, more than one of these processes have been active in the development of horizons.

The accumulation of organic matter in the upper part of the soil profile is important because this accumulation results in the formation of an A horizon. A large amount of this organic matter is well-decomposed material, or

humus, but a considerable amount consists of living plants and other organisms.

Carbonates, salts, and bases have been leached from many of the soils in this county. This leaching has contributed to the development of horizons. Soil scientists generally agree that leaching of bases from the upper horizons of a soil generally precedes the translocation of silicate clay. Most of the soils west of the Noxubee River are acid, and their colloidal complexes are predominately saturated with hydrogen irons. In the eastern part of the county, the calcium carbonate content in the underlying parent material of soils in the Blackland Prairie ranges from 50 to 85 percent.

The reduction and transfer of iron, a process called gleying, is evident in poorly drained soils of the county. This gleying is indicated by the grayish color of the horizons below the surface layer. Sessum and Vimville soils have a gleyed subsoil. Segregation of iron is indicated by reddish or brownish mottles and concretions in some horizons.

In some soils of Noxubee County, the translocation of clay minerals has contributed to the development of soil horizons. The eluviated A horizon is lower in content of clay than the underlying Bt horizon and generally is lighter in color. The Bt horizon generally has an accumulation of clay (clay films) in pores and on ped surfaces. These soils were probably leached of carbonates and soluble salts to a considerable extent before translocation of silicate clays took place.

The leaching of bases and subsequent translocation of silicate clays are among the more important processes of horizon differentiation that have taken place in the soils of Noxubee County. In Cahaba, Freest, Lucedale, Ruston, Smithdale, and Wilcox soils and several other soils, translocated silicate clays have accumulated in the Bt horizon in the form of clay films.

General Geology

Dr. Troy J. Laswell, head, and Dr. Ernest E. Russell, professor, Department of Geology and Geography, Mississippi State University, prepared this section.

The physiography, stratigraphy, geologic structure, and economic geology of Noxubee County are discussed in this section. A generalized geologic map (fig. 16) from the 1969 Mississippi Geological Survey is at the end of this section.

Physiography

Four distinctive physiography types are represented in Noxubee County, namely, the flood plains and terraces of the Noxubee and Tombigbee Rivers, the Blackland Prairie, the Flatwoods, and the North Central Hills.

A large part of the eastern two-thirds of the county in the Blackland Prairie is underlain by chalks and marls generally referred to as the Selma Group. Topography developed on these units is gently rolling to relatively flat, and steep slopes are not common except along stream banks. Elevations in these areas range from nearly 300 feet in northern Noxubee County to about 200 feet in the southern part of the county.

The Blackland Prairie is bounded on the west by slightly increased elevations of the Flatwoods physiographic unit. This area is underlain by clays and by smaller amounts of sand and is a relatively flat to gently rolling topography. Elevations in this area range from about 325 feet in the north to about 250 to 270 feet in the south-central part of the county.

To the southwest, the Flatwoods give way rather abruptly to the most rugged topography in the county. The highest elevations, which are over 620 feet, are in the southwest. The Wilcox Formation, upon which this topography is developed, forms a pronounced northwest-southeast trending escarpment across the southwest corner. Large slump blocks of sand and sandy clay strata can be observed along the slopes of the Wilcox escarpment. This hilly area is part of Mississippi's North Central Hills physiographic unit.

The Noxubee River is the major stream in Noxubee County. It flows from Bluff Lake in the northwestern corner of the county and southeastward near the western boundary of the Blackland Prairie to the southeastern corner of the county. It turns abruptly eastward to enter Alabama and then southeastward to the Tombigbee River near Gainesville, Alabama.

Throughout the county, the Noxubee flood plain is 2 to 3 miles wide, and is extensively swampy in some places. In some areas along the river, alluvial deposits of former drainage cycles are dissected into a series of flood plain remnants that are generally designated as terraces. Like the present flood plains, the terraces present a relatively flat surface, sloping gently in the downstream direction. Terraces that are associated with the Tombigbee River in Alabama have modified the extreme eastern part of Noxubee County. The Noxubee River terraces and the Tombigbee River terraces are above the level of the present flood plains.

Stratigraphy

The oldest geologic surface unit in Noxubee County is the Mooreville Formation which underlies the northeastern part of the county *(3)*. This surface unit is primarily a chalky clay or marl. It forms the lower part of the Selma Chalk or Selma Group. The Mooreville Formation in this area is mostly concealed by residuum or terrace deposits of the Tombigbee River. Along with the other carbonate units in Noxubee County, the Mooreville Formation is of Upper Cretaceous age and was deposted during the latter part of the Mesozoic era. The uppermost part of the Mooreville Formation is one or more thin, fairly hard limestone beds that is known as the Arcola Limestone Member. Small blocks of the

Arcola Limestone Member are not uncommon on the surface or in the soil developed on the Mooreville Formation.

Overlying the Mooreville Formation is a stratigraphic unit known as the Demopolis Chalk. This is that part of the Selma Group that has the highest carbonate content and has clayey impurities that generally make up less than 25 percent of its composition. The unit is light to medium gray and may be exposed as bald spots where the thin soil cover has been removed. The Demopolis Chalk unit underlies a strip that is approximately 15 miles wide that extends from the north central part of the county to the southeastern part. The gently rolling topography developed on the Demopolis Chalk unit in this area typically represents the Blackland Prairie of northeast Mississippi. Fossil bivalve shells are not uncommon in the Demopolis Chalk unit, and they provide a basis for paleontological zoning of the unit. Approximately 50 feet of the upper part of the Demopolis Chalk unit is more sandy and clayey and, generally, weathers to a tan clay. This part of the Demopolis Chalk unit has been called the Bluffport Marl Member.

West of the Demopolis Chalk unit and overlying the unit is a relatively thin unit consisting of calcareous, sandy clays, some beds of which are indurated by calcium carbonate into fairly hard sandstones. This unit, which in general thickens northward and thins southward in Noxubee County, is termed the Ripley Formation. The sandy clays of the Ripley Formation are highly micaceous and glauconitic and have marine fossils fairly common in some areas. Generally, the Ripley Formation strata weather to reddish brown or yellowish brown through oxidation of iron in the glauconite. Northward from Noxubee County, the thickening Ripley Formation exerts more and more influence on the topography, forming a low sandy ridge in Lowndes County to the north, and contributes to the hilly area known as the Pontotoc Ridge or Pontotoc Hills, north of Oktibbeha County. Southward from the Macon area, the Ripley Formation becomes thinner, finer, and more calcareous, and this formation is difficult to distinguish from the Bluffport Member of the Demopolis Chark unit.

The youngest unit of Cretaceous age, the Prairie Bluff Chalk, overlies the Ripley Formation and crops out in a narrow band, less than 3 miles wide, to the west of the Ripley Formation. Thus, the Prairie Bluff Chalk extends from the northwest corner of Noxubee County southeastward through Shuqualak to the southeast-central part of the county. Along much of this extent, its base is characterized by the presence of phosphatic molds of mollusks. The Prairie Bluff unit is a fairly compact, brittle, fossiliferous, light to medium gray chalk that is approximately 30 feet thick. The gently rolling topography developed on the Prairie Bluff and on the underlying Ripley Formation in Noxubee County is generally considered as a part of the Blackland Prairie.

To the west and southwest of the Prairie Bluff Chalk outcrop, a narrow belt of slightly greater relief has developed on the oldest unit of the Tertiary System. This belt is known as the Clayton unit. It unconformably overlies the Prairie Bluff and consists of calcareous sand that has small amounts of clay. In some areas, the sand is indurated into fairly compact layers of calcareous sandstones.

The upper unit of the Midway Group in Noxubee County is a relatively thick, dark, blocky marine clay called the Porters Creek Clay. This unit underlies a relatively flat, subdued topography generally referred to as the Flatwoods. The larger part of the western one-third of Noxubee County is underlain by the Porters Creek Clay. The upper part of the Porters Creek Clay is increasingly sandy so that topography becomes higher and more dissected in the western part of the belt.

The southwestern corner of Noxubee County is underlain by the nonmarine sands and clays of the Wilcox Formation of the Eocene age. Because of their greater resistance to erosion, the units of the Wilcox Formation support very hilly topography. An outstanding feature of the topography developed on the Wilcox Formation is the dissected east-northeast facing escarpment overlooking the Flatwoods. This escarpment is apparent across the northeastern corner of Mississippi. In southwestern Noxubee County, higher elevations developed on the Wilcox escarpments generally range from about 550 to 600 feet. Adjacent areas developed on the Porters Creek Clay are approximately 300 feet in elevation. Large slump-blocks developed along the steep slopes of the Wilcox escarpment have produced anomalous dips that could be erroneously interpreted to represent geologic faults.

The geologically youngest sediments are the discontinuous terrace deposits and the present flood plain deposits that are associated with the Tombigbee River and the Noxubee River. These Cenozoic sediments generally consist of locally derived sands, silts, and clays.

Geologic Structure

The stratigraphic units in the Noxubee County area present a structural strike to the west of north, the magnitude approximating N. 25 degrees W. Normal dips are all to the southwest at less than one-half degree. Anomalous dips may develop from slumps, as noted above, or from crossbedding that is associated with channel fills, or from small faults that may be in the Prairie Bluff Chalk.

Economic Geology

The raw material of greatest value in Noxubee County is ground water, clays, chalks, and sand. There is additional raw material in the county, but this material is not of commercial value at the present time.

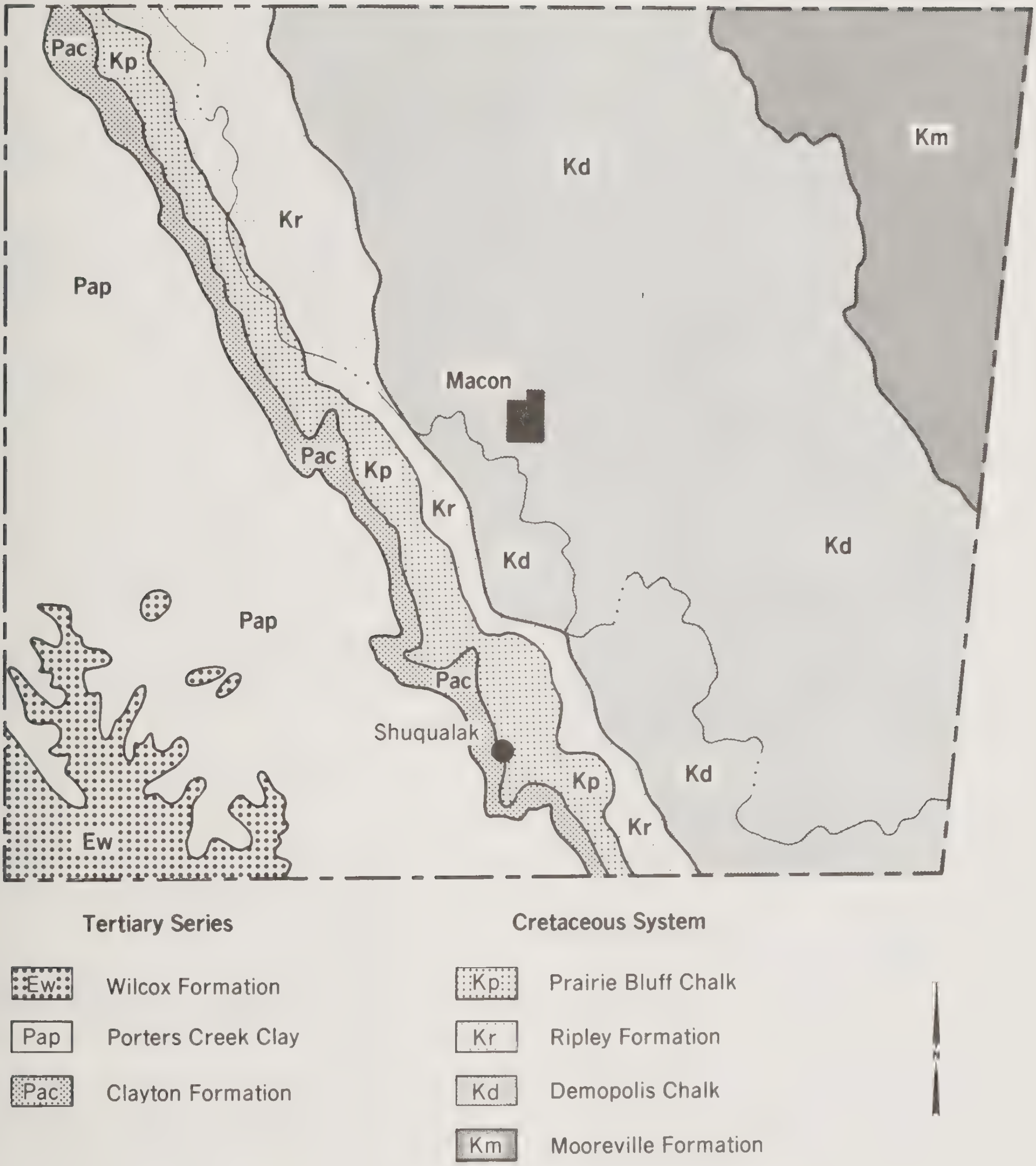


Figure 16.—Generalized geologic map of Noxubee County, Mississippi.

The major aquifers are the Eutaw Formation and the Tuscaloosa Formation, both Upper Cretaceous units. Locally, along the Wilcox escarpment are springs that supply small amounts of water, especially in the wetter periods.

The best clays come from the Wilcox Formation, although clays are associated with other units. The major use of clays as raw material is for manufacture of brick and tile.

Chalks of the Demopolis Formation are quarried in Macon in Noxubee County for agricultural lime and in southern Lowndes County for the manufacturing of cement.

Sands in large quantity are available in the Wilcox Formation. The sands are easily obtained and can be readily loaded for shipping.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly such soil formed in recent alluvium or on steep rocky slopes.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine stratifications, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediments.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Broad-base terrace. A ridge-type terrace built to control erosion by diverting runoff along the contour at a nonscouring velocity. The terrace is 10 to 20 inches high and 15 to 30 feet wide and has gently sloping sides, a rounded crown, and a dish-shaped channel along the upper side. It may be nearly level or have a grade toward one or both ends.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity, but is more precise in meaning.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Clean tillage (conventional tillage). A tillage system for producing crops that results in a clean seedbed that is relatively free of weeds and surface residue. During the growing season the fields are kept free of weeds by repeated cultivations.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Coarse textured soil. Sand or loamy sand.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected

scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazingland for a prescribed period.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material

through eluviation are eluvial; those that have received material are illuvial.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, such as fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay are in the soil. The soil is not a source of gravel or sand for construction purposes.

Fast intake (in tables). The movement of water into the soil is rapid.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, and clay.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Forb. Any herbaceous plant that is not a grass or a sedge.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.5 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches (7.5 centimeters) in diameter.

Ground water (geology). Water filling all the unblocked pores of underlying material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an upper case letter represents the major horizons. Numbers or lower case letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the *Soil Survey Manual*. The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an O, A, or E horizon. The B horizon is, in part, a layer of transition from the overlying horizon to the underlying C horizon. The B horizon also has distinctive characteristics, such as accumulation of clay, sesquioxides, humus, or a combination of these; prismatic or blocky structure; redder or browner colors than those in the A horizon; or a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil does not have a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, the Arabic numeral 2 precedes the letter C.

R layer.—Consolidated rock (unweathered bedrock) beneath the soil. The rock commonly underlies a C horizon, but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material. This contrasts with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake in inches per hour is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Munsell notation. A designation of color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color of 10YR hue, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For

example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Subsurface tunnels or pipelike cavities are formed by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Poor filter (in tables). Because of rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poor outlets (in tables). In these areas, surface or subsurface drainage outlets are difficult or expensive to install.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of the acidity or alkalinity of a soil expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Seepage (in tables). The movement of water through the soil adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Breaking up a compact subsoil by pulling a special chisel through the soil.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the A2 horizon. Generally refers to a leached horizon lighter in color and lower in organic matter content than the overlying surface layer.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior.

Terrace. An embankment, or ridge, constructed on the contour or at a slight angle to the contour across sloping soils. The terrace intercepts surface runoff, so that water soaks into the soil or flows slowly to a prepared outlet.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Unstable fill (in tables). There is a risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Weathering. All physical and chemical changes produced by atmospheric agents in rocks or other deposits at or near the earth's surface. These changes result in disintegration and decomposition of the material.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

[Based on data recorded in the period 1951-80 at Macon, Mississippi]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have: Maximum temperature higher than--	2 years in 10 will have: Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have--: Less than--	2 years in 10 will have--: More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	58.8	32.1	42.5	77	9	63	5.79	3.34	7.96	8	.7
February---	57.7	35.6	46.7	60	14	100	5.24	2.65	7.49	7	.3
March------	65.8	43.2	54.5	85	22	213	6.81	3.70	9.55	8	.2
April------	75.6	52.0	63.8	89	33	414	6.44	3.30	9.17	6	.0
May--------	83.1	59.9	71.5	94	41	667	4.14	2.01	5.98	6	.0
June-------	89.5	66.7	78.1	99	52	843	3.35	1.56	4.89	6	.0
July-------	92.4	70.0	81.2	101	59	967	4.89	2.25	7.15	7	.0
August-----	92.1	68.9	80.5	100	57	946	3.56	1.04	5.61	5	.0
September--	87.2	63.2	75.2	98	47	756	3.78	.94	6.04	5	.0
October----	77.2	50.3	63.8	92	31	428	3.00	1.06	4.63	4	.0
November---	65.6	40.8	53.2	86	18	150	4.04	1.88	5.90	6	.0
December---	56.7	34.4	45.6	78	13	65	5.43	2.31	8.07	7	.1
Yearly:											
Average--	74.6	51.4	63.1	---	---	---	---	---	---	---	---
Extreme--	---	---	---	102	9	---	---	---	---	---	---
Total----	---	---	---	---	---	5,612	56.47	45.31	66.98	75	1.3

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 °F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

[Based on data recorded in the period 1951-80 at Macon, Mississippi]

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	March 19	March 30	April 9
2 years in 10 later than--	March 8	March 20	April 3
5 years in 10 later than--	February 16	March 3	March 24
First freezing temperature in fall:			
1 year in 10 earlier than--	November 5	October 30	October 23
2 years in 10 earlier than--	November 13	November 4	October 27
5 years in 10 earlier than--	November 29	November 14	November 4

TABLE 3.--GROWING SEASON

[Based on data recorded in the period 1951-80 at Macon, Mississippi]

Probability	Length of growing season if daily minimum temperature is ---		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	244	228	207
8 years in 10	258	238	213
5 years in 10	286	255	224
2 years in 10	313	273	235
1 year in 10	327	287	241

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
Be	Belden silt loam, frequently flooded	574	0.1
BrA	Brooksville silty clay, 0 to 1 percent slopes	14,944	3.4
BrB	Brooksville silty clay, 1 to 3 percent slopes	8,010	1.8
CaA	Cahaba fine sandy loam, 0 to 2 percent slopes	1,490	0.4
Cp	Catalpa silty clay, occasionally flooded	12,070	2.7
DeC2	Demopolis-Binnsville complex, 2 to 8 percent slopes, eroded	6,578	1.5
FaA	Falkner silt loam, 0 to 2 percent slopes	6,060	1.4
FaB	Falkner silt loam, 2 to 5 percent slopes	990	0.2
FK	Falkner silt loam, level	22,010	4.9
FrA	Freest fine sandy loam, 0 to 2 percent slopes	4,410	1.0
FrB	Freest fine sandy loam, 2 to 5 percent slopes	1,540	0.3
Gr	Griffith silty clay, occasionally flooded	2,480	0.6
Je	Jena fine sandy loam, occasionally flooded	1,064	0.2
KpA	Kipling silt loam, 0 to 2 percent slopes	15,900	3.6
KpB2	Kipling silt loam, 2 to 5 percent slopes, eroded	6,670	1.4
KpC2	Kipling silt loam, 5 to 8 percent slopes, eroded	4,286	1.0
KpD2	Kipling silt loam, 8 to 12 percent slopes, eroded	810	0.2
La	Latonia fine sandy loam, occasionally flooded	842	0.1
LC	Latonia-Cahaba association, occasionally flooded	1,926	0.4
Le	Leeper silty clay, occasionally flooded	40,126	9.2
LL	Leeper-Catalpa association, frequently flooded	1,408	0.3
LoA	Longview silt loam, 0 to 2 percent slopes	890	0.2
LR	Longview-Falkner association, undulating	9,024	2.0
LuA	Lucedale fine sandy loam, 0 to 2 percent slopes	710	0.2
Ma	Mantachie loam, occasionally flooded	10,630	2.4
Me	Marietta loam, occasionally flooded	3,844	0.9
Mo	Mooreville loam, occasionally flooded	4,500	1.0
Oc	Ochlockonee fine sandy loam, occasionally flooded	574	0.1
OkA	Okolona silty clay, 0 to 1 percent slopes	6,730	1.5
OkB	Okolona silty clay, 1 to 3 percent slopes	9,630	2.2
OtB2	Oktibbeha silty clay loam, 2 to 5 percent slopes, eroded	1,518	0.3
OtC2	Oktibbeha silty clay loam, 5 to 8 percent slopes, eroded	2,410	0.5
OuE2	Oktibbeha-Sumter complex, 8 to 15 percent slopes, eroded	8,700	2.0
OuF2	Oktibbeha-Sumter complex, 15 to 25 percent slopes, eroded	1,960	0.4
Pt	Pits-Udorthents complex	412	0.1
PuA	Prentiss fine sandy loam, 0 to 2 percent slopes	4,666	1.0
PuB	Prentiss fine sandy loam, 2 to 5 percent slopes	7,760	1.7
PX	Prentiss-Stough association, undulating	2,126	0.5
QU	Quitman fine sandy loam, undulating, occasionally flooded	6,070	1.4
RuB2	Ruston fine sandy loam, 2 to 5 percent slopes, eroded	2,830	0.6
RuC2	Ruston fine sandy loam, 5 to 8 percent slopes, eroded	2,318	0.5
SaA	Savannah fine sandy loam, 0 to 2 percent slopes	4,090	0.9
SaB	Savannah fine sandy loam, 2 to 5 percent slopes	10,994	2.5
SaC2	Savannah fine sandy loam, 5 to 8 percent slopes, eroded	6,662	1.5
SaD2	Savannah fine sandy loam, 8 to 12 percent slopes, eroded	650	0.1
SeA	Sessum silty clay, 0 to 2 percent slopes	2,070	0.5
SmD2	Smithdale sandy loam, 8 to 15 percent slopes, eroded	1,844	0.4
SmF3	Smithdale sandy loam, 15 to 30 percent slopes, severely eroded	810	0.2
SP	Smithdale-Lucy association, hilly	10,000	2.2
StA	Stough fine sandy loam, 0 to 2 percent slopes	13,716	3.1
SuB2	Sumter silty clay, 2 to 5 percent slopes, eroded	6,230	1.4
SuD2	Sumter silty clay, 5 to 12 percent slopes, eroded	7,952	1.8
SuE2	Sumter silty clay, 12 to 17 percent slopes, eroded	718	0.2
SvE3	Sumter-Demopolis-Rock outcrop, chalk complex, 5 to 20 percent slopes, severely eroded	2,176	0.5
SW	Sweatman-Smithdale association, hilly	14,976	3.4
TaA	Talla loam, 0 to 2 percent slopes	400	0.1
Ub	Urbo silty clay loam, occasionally flooded	6,450	1.5
UM	Urbo-Mantachie association, occasionally flooded	23,524	5.3
VaA	Vaiden silty clay, 0 to 2 percent slopes	37,190	8.4
VaB2	Vaiden silty clay, 2 to 5 percent slopes, eroded	18,728	4.2
VaC2	Vaiden silty clay, 5 to 8 percent slopes, eroded	2,366	0.5
VmA	Vimville loam, 0 to 2 percent slopes	2,090	0.5

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
WcB2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded	2,820	0.6
WcC2	Wilcox silty clay loam, 5 to 8 percent slopes, eroded	3,096	0.7
WcD2	Wilcox silty clay loam, 8 to 15 percent slopes, eroded	1,320	0.3
WcF	Wilcox silty clay loam, 15 to 35 percent slopes	2,000	0.4
WD	Wilcox silty clay loam, rolling	4,770	1.1
WF	Wilcox-Falkner association, undulating	11,968	2.7
	Water (less than 40 acres)	1,900	0.4
	Water (more than 40 acres)	1,800	0.4
	Total	444,800	100.0

TABLE 5.--PRIME FARMLAND

[Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland]

Map symbol	Soil name
BrA	Brooksville silty clay, 0 to 1 percent slopes
BrB	Brooksville silty clay, 1 to 3 percent slopes
CaA	Cahaba fine sandy loam, 0 to 2 percent slopes
Cp	Catalpa silty clay, occasionally flooded
FaA	Falkner silt loam, 0 to 2 percent slopes
FaB	Falkner silt loam, 2 to 5 percent slopes
FK	Falkner silt loam, level
FrA	Freest fine sandy loam, 0 to 2 percent slopes
FrB	Freest fine sandy loam, 2 to 5 percent slopes
Gr*	Griffith silty clay, occasionally flooded
Je	Jena fine sandy loam, occasionally flooded
KpA	Kipling silt loam, 0 to 2 percent slopes
KpB2	Kipling silt loam, 2 to 5 percent slopes, eroded
La	Latonia fine sandy loam, occasionally flooded
LC	Latonia-Cahaba association, occasionally flooded
Le*	Leeper silty clay, occasionally flooded
LoA	Longview silt loam, 0 to 2 percent slopes
LR	Longview-Falkner association, undulating
LuA	Lucedale fine sandy loam, 0 to 2 percent slopes
Ma*	Mantachie loam, occasionally flooded
Me	Marietta loam, occasionally flooded
Mo	Mooreville loam, occasionally flooded
Oc	Ochlockonee fine sandy loam, occasionally flooded
OkA	Okolona silty clay, 0 to 1 percent slopes
OkB	Okolona silty clay, 1 to 3 percent slopes
OtB2	Oktibbeha silty clay loam, 2 to 5 percent slopes, eroded
PuA	Prentiss fine sandy loam, 0 to 2 percent slopes
PuB	Prentiss fine sandy loam, 2 to 5 percent slopes
QU	Quitman fine sandy loam, undulating, occasionally flooded
RuB2	Ruston fine sandy loam, 2 to 5 percent slopes, eroded
SaA	Savannah fine sandy loam, 0 to 2 percent slopes
SaB	Savannah fine sandy loam, 2 to 5 percent slopes
Ub*	Urbo silty clay loam, occasionally flooded
UM*	Urbo-Mantachie association, occasionally flooded
VaA	Vaiden silty clay, 0 to 2 percent slopes
VaB2	Vaiden silty clay, 2 to 5 percent slopes, eroded
WcB2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded
WF	Wilcox-Falkner association, undulating

* This soil is considered prime farmland when the water table is maintained at a sufficient depth during the growing season to allow cultivated crops that are common to the area to be grown.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Land capability	Cotton lint	Corn	Soybeans	Wheat	Common bermuda-grass	Improved bermuda-grass	Tall fescue
		Lbs	Bu	Bu	Bu	AUM*	AUM*	AUM*
Be-------------- Belden	IVw	---	---	30	---	6.0	---	---
BrA------------- Brooksville	IIw	700	60	35	45	---	11.0	9.0
BrB------------- Brooksville	IIe	650	60	30	45	---	10.5	9.0
CaA------------- Cahaba	I	800	100	35	45	---	10.0	---
Cp-------------- Catalpa	IIw	750	80	40	45	8.5	12.0	11.0
DeC2------------ Demopolis-Binnsville	VIe	---	---	---	---	4.3	---	4.5
FaA------------- Falkner	IIw	625	75	35	35	7.5	9.5	8.0
FaB------------- Falkner	IIIe	600	70	30	35	7.0	9.0	7.5
FK-------------- Falkner	IIw	625	75	35	35	7.0	9.5	8.0
FrA------------- Freest	IIw	450	50	25	35	6.0	7.0	7.0
FrB------------- Freest	IIe	400	40	25	35	6.0	7.0	7.0
Gr-------------- Griffith	IIw	750	85	40	35	8.0	---	11.0
Je-------------- Jena	IIw	700	85	40	40	7.0	12.0	---
KpA------------- Kipling	IIIw	550	---	30	35	---	8.5	6.5
KpB2------------ Kipling	IIIe	550	---	25	35	---	8.5	6.5
KpC2------------ Kipling	IVe	500	---	20	25	---	8.0	6.0
KpD2------------ Kipling	VIe	---	---	---	---	---	7.5	---
La-------------- Latonia	IIs	---	60	25	35	---	9.5	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Map symbol and soil name	Land capability	Cotton lint	Corn	Soybeans	Wheat	Common bermudagrass	Improved bermudagrass	Tall fescue
		Lbs	Bu	Bu	Bu	AUM*	AUM*	AUM*
LC**:								
Latonia	IIs	---	60	25	35	---	9.5	---
Cahaba	IIw	800	90	35	45	---	10.0	---
Le: Leeper	IIw	750	80	40	35	8.0	12.0	11.0
LL**:								
Leeper	IVw	---	---	30	35	8.0	9.0	---
Catalpa	IVw	---	---	30	45	8.0	9.0	9.0
LoA: Longview	IIw	650	85	30	35	8.0	9.0	8.0
LR**:								
Longview	IIe	650	80	30	35	8.0	9.0	8.0
Falkner	IIIe	600	70	30	35	---	9.0	7.5
LuA: Lucedale	I	750	80	40	40	---	10.0	---
Ma: Mantachie	IIw	650	90	35	30	---	12.0	10.0
Me: Marietta	IIw	750	90	40	40	---	12.0	12.0
Mo: Mooreville	IIw	750	90	35	30	---	12.0	12.0
Oc: Ochlockonee	IIw	---	110	40	30	---	8.0	---
OkA: Okolona	IIs	700	60	35	40	---	11.0	9.0
OkB: Okolona	IIe	650	60	35	40	---	10.5	9.0
OtB2: Oktibbeha	IIIe	550	55	35	35	---	8.5	6.5
OtC2: Oktibbeha	IVe	---	50	30	30	---	8.0	6.0
OuE2: Oktibbeha-Sumter	VIe	---	---	---	---	---	---	---
OuF2: Oktibbeha-Sumter	VIIe	---	---	---	---	---	---	---
Pt**: Pits-Udorthents	---	---	---	---	---	---	---	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Map symbol and soil name	Land capability	Cotton lint	Corn	Soybeans	Wheat	Common bermuda-grass	Improved bermuda-grass	Tall fescue
		Lbs	Bu	Bu	Bu	AUM*	AUM*	AUM*
PuA------------- Prentiss	IIw	750	85	30	35	---	9.0	8.0
PuB------------- Prentiss	IIe	750	80	30	35	---	9.0	8.0
PX**:								
Prentiss-------	IIe	750	80	30	35	---	9.0	8.0
Stough---------	IIIe	675	70	25	30	---	8.0	8.0
QU------------- Quitman	IIw	650	80	30	30	---	10.0	9.0
RuB2------------ Ruston	IIe	650	70	30	35	5.5	12.0	8.0
RuC2------------ Ruston	IIIe	600	65	25	30	5.5	12.0	7.5
SaA------------- Savannah	IIw	700	80	35	40	5.5	8.5	8.0
SaB------------- Savannah	IIe	650	75	35	40	5.5	8.5	8.0
SaC2------------ Savannah	IIIe	600	70	30	35	5.0	8.0	7.5
SaD2------------ Savannah	IVe	---	65	25	---	---	7.0	7.0
SeA------------- Sessum	IVw	---	---	25	25	---	9.0	6.0
SmD2------------ Smithdale	IVe	400	50	25	---	5.0	9.0	---
SmF3------------ Smithdale	VIIe	---	---	---	---	---	---	---
SP**:								
Smithdale------	VIIe	---	---	---	---	---	---	---
Lucy-----------	VIs	---	---	---	---	---	---	---
StA------------- Stough	IIw	725	80	25	30	5.0	8.0	8.0
SuB2------------ Sumter	IIIe	---	---	25	30	---	---	6.0
SuD2, SuE2------ Sumter	VIe	---	---	---	---	---	---	---
SvE3**:								
Sumter---------	VIe	---	---	---	---	---	---	---
Demopolis-----	VIe	---	---	---	---	---	---	---
Rock outcrop--	VIIIs	---	---	---	---	---	---	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Map symbol and soil name	Land capability	Cotton lint	Corn	Soybeans	Wheat	Common bermuda-grass	Improved bermuda-grass	Tall fescue
		Lbs	Bu	Bu	Bu	AUM*	AUM*	AUM*
SW**:								
Sweatman	VIIe	---	---	---	---	---	---	---
Smithdale	VIIe	---	---	---	---	---	---	---
TaA Talla	IIIw	650	70	25	20	7.0	9.0	8.0
Ub Urbo	IIw	700	95	35	25	---	12.0	11.0
UM**:								
Urbo	IIw	700	95	35	25	---	12.0	11.0
Mantachie	IIw	650	90	35	30	---	12.0	10.0
VaA Vaiden	IIIw	500	45	30	30	---	4.5	6.5
VaB2 Vaiden	IIIe	450	40	25	30	---	4.5	6.5
VaC2 Vaiden	IVe	---	---	---	25	---	4.5	6.5
VmA Vimville	IIIw	---	---	30	25	---	8.5	8.5
WcB2 Wilcox	IIIe	---	40	25	25	6.5	---	7.5
WcC2 Wilcox	IVe	---	---	20	20	6.0	---	7.0
WcD2 Wilcox	VIe	---	---	---	---	5.5	---	6.0
WcF Wilcox	VIIe	---	---	---	---	---	---	---
WD Wilcox	VIe	---	---	---	---	5.5	---	6.0
WF**:								
Wilcox	IIIe	---	40	25	25	6.5	---	7.5
Falkner	IIw	600	70	30	35	7.0	9.0	7.5

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 7.--CAPABILITY CLASSES AND SUBCLASSES

[Miscellaneous areas are excluded. Absence of an entry indicates no acreage]

Class	Total acreage	Major management concerns (Subclass)		
		Erosion (e)	Wetness (w)	Soil problem (s)
		Acres	Acres	Acres
I	2,450	---	---	---
II	241,125	48,361	184,171	8,593
III	115,634	61,204	54,430	---
IV	18,703	14,652	4,051	---
V	---	---	---	---
VI	32,585	28,585	---	4,000
VII	26,518	26,518	---	---
VIII	---	---	---	---

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available]

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Trees to plant
Be----------------- Belden	1w8	Slight	Moderate	Moderate	Moderate	Eastern cottonwood--	110	Eastern cottonwood, loblolly pine, sweetgum, American sycamore, yellow-poplar, green ash.
						Southern red oak----	100	
						White oak-----------	90	
						Loblolly pine-------	100	
						Sweetgum------------	100	
						Yellow-poplar-------	95	
BrA, BrB----------- Brooksville	4c2c	Slight	Moderate	Moderate	Slight	Eastern redcedar----	40	Eastern redcedar.
						Osageorange---------	---	
CaA---------------- Cahaba	2o7	Slight	Slight	Slight	Moderate	Loblolly pine-------	87	Loblolly pine, yellow-poplar, sweetgum.
						Slash pine----------	91	
						Yellow-poplar-------	---	
						Sweetgum------------	90	
						White oak-----------	---	
						Cherrybark oak------	---	
Cp----------------- Catalpa	1w5	Slight	Moderate	Moderate	Moderate	Eastern cottonwood--	110	Eastern cottonwood, sweetgum, American sycamore, yellow-poplar.
						Green ash-----------	90	
						Sweetgum------------	100	
						American sycamore---	100	
						Hackberry-----------	---	
DeC2*:								
Demopolis---------	4d3c	Slight	Slight	Severe	Moderate	Eastern redcedar----	40	Eastern redcedar.
Binnsville--------	4d3c	Slight	Moderate	Severe	Moderate	Eastern redcedar----	40	Eastern redcedar.
FaA, FaB, FK------- Falkner	2w8	Slight	Moderate	Slight	Moderate	Loblolly pine-------	85	Cherrybark oak, loblolly pine, shortleaf pine, sweetgum.
						Shortleaf pine------	75	
						Sweetgum------------	90	
FrA, FrB----------- Freest	2w8	Slight	Moderate	Slight	Moderate	Loblolly pine-------	90	Loblolly pine.
						Shortleaf pine------	80	
						Slash pine----------	85	
						Cherrybark oak------	---	
Gr----------------- Griffith	1w6	Slight	Severe	Severe	Moderate	Eastern cottonwood--	110	Eastern cottonwood, green ash, sweetgum, American sycamore, yellow-poplar.
						Green ash-----------	95	
						Sweetgum------------	95	
						American sycamore---	100	
						Hackberry-----------	100	
Je----------------- Jena	1o7	Slight	Slight	Slight	Moderate	Loblolly pine-------	100	Loblolly pine, American sycamore, eastern cottonwood.
						Sweetgum------------	90	
						Water oak-----------	80	
						Southern red oak----	---	
						White oak-----------	---	
						Slash pine----------	---	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	
KpA, KpB2, KpC2, KpD2: Kipling	2c8	Slight	Moderate	Moderate	Moderate	Cherrybark oak	90	Cherrybark oak, loblolly pine, Shumard oak, sweetgum.
						Loblolly pine	90	
						Shumard oak	85	
						Sweetgum	90	
						Water oak	80	
						White oak	80	
La: Latonia	2o1	Slight	Slight	Slight	Slight	Loblolly pine	90	Loblolly pine.
						Slash pine	90	
LC*:								
Latonia	2o1	Slight	Slight	Slight	Slight	Loblolly pine	90	Loblolly pine.
						Slash pine	90	
Cahaba	2o7	Slight	Slight	Slight	Moderate	Loblolly pine	87	Loblolly pine, yellow-poplar, sweetgum.
						Slash pine	91	
						Yellow-poplar	---	
						Sweetgum	90	
						Cherrybark oak	---	
						White oak	---	
Le: Leeper	1w6	Slight	Severe	Severe	Slight	Eastern cottonwood	110	Eastern cottonwood, sweetgum, green ash, American sycamore.
						Sweetgum	95	
						Green ash	90	
						American sycamore	100	
LL*:								
Leeper	1w5	Slight	Severe	Severe	Slight	Eastern cottonwood	110	Eastern cottonwood, American sycamore.
						American sycamore	100	
Catalpa	1w6	Slight	Moderate	Moderate	Moderate	Eastern cottonwood	110	Eastern cottonwood, sweetgum, American sycamore, yellow-poplar.
						Green ash	90	
						Sweetgum	100	
						American sycamore	100	
						Hackberry	---	
LoA: Longview	2w8	Slight	Moderate	Slight	Moderate	Cherrybark oak	88	Cherrybark oak, Shumard oak, loblolly pine, sweetgum, yellow-poplar.
						Water oak	82	
						Loblolly pine	86	
						Sweetgum	88	
LR*:								
Longview	2w8	Slight	Moderate	Slight	Moderate	Cherrybark oak	88	Cherrybark oak, Shumard oak, loblolly pine, sweetgum, yellow-poplar.
						Water oak	82	
						Loblolly pine	86	
						Sweetgum	88	
Falkner	2w8	Slight	Moderate	Slight	Moderate	Loblolly pine	85	Cherrybark oak, loblolly pine, shortleaf pine, sweetgum.
						Shortleaf pine	75	
						Sweetgum	90	
LuA: Lucedale	2o1	Slight	Slight	Slight	Slight	Loblolly pine	90	Loblolly pine.
						Longleaf pine	75	
						Slash pine	90	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Trees to plant
Ma------------------ Mantachie	1w9	Slight	Severe	Moderate	Severe	Green ash---------- Eastern cottonwood-- Cherrybark oak------ Loblolly pine------- Sweetgum----------- Yellow-poplar-------	80 90 100 98 95 95	Green ash, eastern cottonwood, cherrybark oak, loblolly pine, sweetgum, yellow-poplar.
Me------------------ Marietta	1w5	Slight	Moderate	Moderate	Slight	Eastern cottonwood-- Green ash---------- Sweetgum----------- American sycamore--- Yellow-poplar-------	105 90 100 105 100	Eastern cottonwood, sweetgum, yellow-poplar, green ash, American sycamore.
Mo------------------ Mooreville	1w8	Slight	Moderate	Moderate	Moderate	Cherrybark oak------ Eastern cottonwood-- Green ash---------- Loblolly pine------- Sweetgum----------- Yellow-poplar-------	100 105 80 95 100 100	Cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, yellow-poplar.
Oc------------------ Ochlockonee	1o7	Slight	Slight	Slight	Moderate	Eastern cottonwood-- Loblolly pine------- Yellow-poplar------- Slash pine---------- Sweetgum----------- Water oak----------	100 100 110 100 90 80	Loblolly pine, yellow-poplar, eastern cottonwood.
OkA, OkB------------ Okolona	4c2c	Slight	Moderate	Moderate	Slight	Eastern redcedar---- Osageorange---------	40 ---	Eastern redcedar.
OtB2, OtC2---------- Oktibbeha	3c8	Slight	Moderate	Moderate	Moderate	Loblolly pine------- Shortleaf pine------ Eastern redcedar---- Southern red oak----	76 66 45 70	Loblolly pine, eastern redcedar.
OuE2*:								
Oktibbeha----------	3c8	Slight	Moderate	Moderate	Moderate	Loblolly pine------- Shortleaf pine------ Eastern redcedar---- Southern red oak----	76 66 45 70	Loblolly pine, eastern redcedar.
Sumter-------------	4c2c	Moderate	Moderate	Severe	Moderate	Eastern redcedar----	37	Eastern redcedar.
OuF2*:								
Oktibbeha----------	3c8	Slight	Moderate	Moderate	Moderate	Loblolly pine------- Shortleaf pine------ Eastern redcedar---- Southern red oak----	76 66 45 70	Loblolly pine, eastern redcedar.
Sumter-------------	4r3c	Moderate	Moderate	Severe	Moderate	Eastern redcedar----	37	Eastern redcedar.
PuA, PuB------------ Prentiss	2o7	Slight	Slight	Slight	Slight	Loblolly pine------- Shortleaf pine------ Sweetgum----------- Cherrybark oak------ White oak----------	88 79 90 90 80	Loblolly pine.

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Trees to plant
PX*:								
Prentiss	2o7	Slight	Slight	Slight	Slight	Loblolly pine	88	Loblolly pine.
						Shortleaf pine	79	
						Sweetgum	90	
						Cherrybark oak	90	
						White oak	80	
Stough	2w8	Slight	Moderate	Slight	Moderate	Cherrybark oak	85	Loblolly pine, sweetgum.
						Loblolly pine	90	
						Slash pine	86	
						Sweetgum	85	
						Water oak	80	
QU: Quitman	2w8	Slight	Moderate	Slight	Slight	Water oak	90	Loblolly pine, sweetgum, American sycamore, yellow-poplar.
						Loblolly pine	92	
						Slash pine	90	
						Sweetgum	93	
RuB2, RuC2: Ruston	3o1	Slight	Slight	Slight	--------	Loblolly pine	84	Loblolly pine.
						Shortleaf pine	75	
SaA, SaB, SaC2, SaD2: Savannah	3o7	Slight	Slight	Slight	Moderate	Loblolly pine	81	Loblolly pine.
						Shortleaf pine	76	
						Southern red oak	75	
SeA: Sessum	3c8	Slight	Moderate	Moderate	Moderate	Southern red oak	---	Eastern redcedar, loblolly pine.
						White oak	---	
						Loblolly pine	83	
						Sweetgum	80	
						Eastern redcedar	45	
SmD2: Smithdale	3o1	Slight	Slight	Slight	Slight	Loblolly pine	80	Loblolly pine.
						Shortleaf pine	69	
SmF3: Smithdale	3r1	Moderate	Moderate	Slight	Slight	Loblolly pine	80	Loblolly pine.
						Shortleaf pine	69	
SP*:								
Smithdale	3r1	Moderate	Moderate	Slight	Slight	Loblolly pine	80	Loblolly pine.
						Shortleaf pine	69	
Lucy	3s2	Moderate	Moderate	Severe	Moderate	Longleaf pine	71	Longleaf pine, loblolly pine.
						Loblolly pine	84	
StA: Stough	2w8	Slight	Moderate	Slight	Moderate	Cherrybark oak	85	Loblolly pine, sweetgum.
						Loblolly pine	90	
						Slash pine	86	
						Sweetgum	85	
						Water oak	80	
SuB2, SuD2, SuE2: Sumter	4c2c	Moderate	Moderate	Severe	Moderate	Eastern redcedar	37	Eastern redcedar.

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Trees to plant
SvE3*:								
Sumter	4c2c	Moderate	Moderate	Severe	Moderate	Eastern redcedar	37	Eastern redcedar.
Demopolis	4d3c	Moderate	Moderate	Severe	Moderate	Eastern redcedar	40	Eastern redcedar.
Rock outcrop.								
SW*:								
Sweatman	3c2	Slight	Moderate	Slight	Slight	Loblolly pine Shortleaf pine	83 73	Loblolly pine, shortleaf pine.
Smithdale	3r1	Moderate	Moderate	Slight	Slight	Loblolly pine Shortleaf pine	80 69	Loblolly pine.
TaA Talla	3w8	Slight	Moderate	Slight	Moderate	Cherrybark oak Loblolly pine Shortleaf pine Sweetgum	85 85 75 85	Cherrybark oak, loblolly pine, sweetgum, water oak, yellow-poplar.
Ub Urbo	1w8	Slight	Moderate	Slight	Moderate	Green ash Eastern cottonwood Cherrybark oak Sweetgum	93 108 99 98	Eastern cottonwood, loblolly pine, sweetgum, American sycamore, yellow-poplar.
UM*:								
Urbo	1w8	Slight	Moderate	Slight	Moderate	Green ash Eastern cottonwood Cherrybark oak Sweetgum	93 108 99 98	Eastern cottonwood, loblolly pine, sweetgum, American sycamore, yellow-poplar.
Mantachie	1w9	Slight	Severe	Moderate	Severe	Green ash Eastern cottonwood Cherrybark oak Loblolly pine Sweetgum Yellow-poplar	80 90 100 98 95 95	Green ash, eastern cottonwood, cherrybark oak, loblolly pine, sweetgum, yellow-poplar.
VaA, VaB2, VaC2 Vaiden	3c8	Slight	Moderate	Moderate	Severe	Loblolly pine Shortleaf pine Eastern redcedar Southern red oak	79 66 45 70	Loblolly pine, eastern redcedar.
VmA Vimville	2w9	Slight	Severe	Severe	Moderate	Loblolly pine Sweetgum Water oak Willow oak	95 90 85 85	Green ash, loblolly pine, Nuttall oak, Shumard oak, sweetgum.
WcB2, WcC2, WcD2, WcF, WD Wilcox	3c2	Slight	Moderate	Moderate	Slight	Loblolly pine Shortleaf pine Slash pine	81 68 85	Loblolly pine.

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil nmae	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	
WF*:								
Wilcox-----------	3c2	Slight	Moderate	Moderate	Slight	Loblolly pine-------	81	Loblolly pine.
						Shortleaf pine------	68	
						Slash pine----------	85	
Falkner-----------	2w8	Slight	Moderate	Slight	Moderate	Loblolly pine-------	85	Cherrybark oak, loblolly pine, shortleaf pine, sweetgum.
						Shortleaf pine------	75	
						Sweetgum------------	90	

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--WOODLAND UNDERSTORY VEGETATION

[Only the soils suitable for production of commercial trees are listed]

Map symbol and soil name	Total production (dry weight) in a normal year	Characteristic vegetation	Composition
	Lb/acre		Pct
Be------------------ Belden	1,500	Pinehill bluestem---------------------------	27
		Longleaf uniola-----------------------------	47
BrA, BrB----------- Brooksville	950	Pinehill bluestem---------------------------	42
		Common carpetgrass--------------------------	10
CaA---------------- Cahaba	1,350	Pinehill bluestem---------------------------	40
		Longleaf uniola-----------------------------	30
		Beaked panicum------------------------------	10
Cp----------------- Catalpa	1,900	Pinehill bluestem---------------------------	21
		Longleaf uniola-----------------------------	37
		Switchcane----------------------------------	5
DeC2*:			
Demopolis----------	600	Pinehill bluestem---------------------------	30
		Elliott's bluestem--------------------------	15
		Sedges & rushes-----------------------------	20
		Low panicums--------------------------------	10
Binnsville---------	600	Pinehill bluestem---------------------------	30
		Sedge---------------------------------------	20
		Panicum-------------------------------------	10
		Elliott's bluestem--------------------------	15
FaA, FaB, FK------- Falkner	1,500	Pinehill bluestem---------------------------	33
		Switchcane----------------------------------	27
		Longleaf uniola-----------------------------	20
FrA, FrB----------- Freest	1,800	Pinehill bluestem---------------------------	21
		Beaked panicum------------------------------	11
		Longleaf uniola-----------------------------	12
		Carpetgrass---------------------------------	21
Gr----------------- Griffith	1,900	Pinehill bluestem---------------------------	21
		Longleaf uniola-----------------------------	37
		Switchcane----------------------------------	5
Je----------------- Jena	1,250	Pinehill bluestem---------------------------	24
		Cutover muhly-------------------------------	16
		Longleaf uniola-----------------------------	16
KpA, KpB2, KpC2, KpD2-------------- Kipling	1,000	Pinehill bluestem---------------------------	40
		Common carpetgrass--------------------------	15
		Panicum-------------------------------------	20
La----------------- Latonia	1,000	Pinehill bluestem---------------------------	21
		Beaked panicum------------------------------	21
		Longleaf uniola-----------------------------	42

See footnote at end of table.

TABLE 9.--WOODLAND UNDERSTORY VEGETATION--Continued

Map symbol and soil name	Total production (dry weight) in a normal year	Characteristic vegetation	Composition
	Lb/acre		Pct
LC*:			
Latonia	1,000	Pinehill bluestem	21
		Beaked panicum	21
		Longleaf uniola	42
Cahaba	1,350	Pinehill bluestem	40
		Longleaf uniola	30
		Beaked panicum	10
Le Leeper	1,500	Pinehill bluestem	27
		Longleaf uniola	47
LL*:			
Leeper	1,500	Pinehill bluestem	27
		Longleaf uniola	47
Catalpa	1,900	Pinehill bluestem	21
		Longleaf uniola	37
		Switchcane	5
LoA Longview	1,800	Pinehill bluestem	21
		Common carpetgrass	21
		Longleaf uniola	12
LR*:			
Longview	1,800	Pinehill bluestem	21
		Common carpetgrass	21
		Longleaf uniola	12
Falkner	1,500	Pinehill bluestem	33
		Switchcane	27
		Longleaf uniola	20
LuA Lucedale	1,300	Pinehill bluestem	46
		Beaked panicum	12
		Slender bluestem	15
Ma Mantachie	1,600	Longleaf uniola	25
		Pinehill bluestem	25
Me Marietta	1,900	Pinehill bluestem	21
		Longleaf uniola	37
		Switchcane	5
Mo. Mooreville			
Oc Ochlockonee	1,300	Pinehill bluestem	46
		Longleaf uniola	23
		Beaked panicum	11
OkA, OkB Okolona	950	Pinehill bluestem	42
		Common carpetgrass	10
OtB2, OtC2 Oktibbeha	1,000	Pinehill bluestem	40
		Common carpetgrass	20
		Low panicums	15

See footnote at end of table.

TABLE 9.--WOODLAND UNDERSTORY VEGETATION--Continued

Map symbol and soil name	Total production (dry weight) in a normal year	Characteristic vegetation	Composition
	Lb/acre		Pct
OuE2*, OuF2*:			
Oktibbeha	1,000	Pinehill bluestem	40
		Common carpetgrass	20
		Low panicums	15
Sumter	950	Pinehill bluestem	42
		Common carpetgrass	10
PuA, PuB Prentiss	1,350	Pinehill bluestem	40
		Longleaf uniola	30
		Beaked panicum	10
PX*:			
Prentiss	1,350	Pinehill bluestem	40
		Longleaf uniola	30
		Beaked panicum	10
Stough	1,800	Pinehill bluestem	21
		Longleaf uniola	13
		Beaked panicum	11
		Common carpetgrass	21
QU Quitman	1,800	Longleaf uniola	13
		Pinehill bluestem	21
		Cutover muhly	11
		Common carpetgrass	21
RuB2, RuC2 Ruston	950	Longleaf uniola	42
		Pinehill bluestem	21
		Beaked panicum	21
		Panicum	10
SaA, SaB, SaC2, SaD2 Savannah	1,400	Longleaf uniola	36
		Pinehill bluestem	21
		Beaked panicum	21
		Panicum	14
SeA Sessum	1,000	Pinehill bluestem	40
		Common carpetgrass	20
		Panicum	15
SmD2, SmF3 Smithdale	950	Longleaf uniola	42
		Pinehill bluestem	21
		Beaked panicum	21
		Panicum	12
SP*:			
Smithdale	950	Longleaf uniola	42
		Pinehill bluestem	21
		Beaked panicum	21
		Panicum	12
Lucy	750	Pinehill bluestem	40
		Elliott's bluestem	15
		Panicum	27
		Beaked panicum	15

See footnote at end of table.

TABLE 9.--WOODLAND UNDERSTORY VEGETATION--Continued

Map symbol and soil name	Total production (dry weight) in a normal year	Characteristic vegetation	Composition
	Lb/acre		Pct
StA----------------- Stough	1,800	Pinehill bluestem--------------------------- Longleaf uniola---------------------------- Beaked panicum----------------------------- Common carpetgrass-------------------------	21 13 11 21
SuB2, SuD2, SuE2--- Sumter	950	Pinehill bluestem--------------------------- Common carpetgrass-------------------------	42 10
SvE3*:			
Sumter------------	950	Pinehill bluestem--------------------------- Common carpetgrass-------------------------	42 10
Demopolis---------	600	Pinehill bluestem--------------------------- Elliott's bluestem-------------------------- Low panicums--------------------------------	30 15 10
Rock outcrop.			
SW*:			
Sweatman----------	1,000	Pinehill bluestem--------------------------- Beaked panicum----------------------------- Panicum-------------------------------------	40 20 15
Smithdale---------	950	Longleaf uniola---------------------------- Pinehill bluestem--------------------------- Beaked panicum----------------------------- Panicum-------------------------------------	42 21 21 12
TaA----------------- Talla	1,800	Pinehill bluestem--------------------------- Beaked panicum----------------------------- Longleaf uniola---------------------------- Common carpetgrass-------------------------	21 11 13 21
Ub------------------ Urbo	1,250	Pinehill bluestem--------------------------- Cutover muhly------------------------------ Longleaf uniola----------------------------	24 16 16
UM*:			
Urbo---------------	1,250	Pinehill bluestem--------------------------- Cutover muhly------------------------------ Longleaf uniola----------------------------	24 16 16
Mantachie---------	1,600	Longleaf uniola---------------------------- Pinehill bluestem--------------------------- Sedges & rushes----------------------------	25 25 13
VaA, VaB2, VaC2---- Vaiden	1,000	Pinehill bluestem--------------------------- Common carpetgrass------------------------- Panicum-------------------------------------	40 20 15
VmA----------------- Vimville	1,400	Pinehill bluestem--------------------------- Cutover muhly------------------------------ Longleaf uniola---------------------------- Panicum-------------------------------------	30 17 17 10
WcB2, WcC2, WcD2, WD----------------- Wilcox	800	Pinehill bluestem--------------------------- Panicum------------------------------------- Beaked panicum-----------------------------	25 25 31

See footnote at end of table.

TABLE 9.--WOODLAND UNDERSTORY VEGETATION--Continued

Map symbol and soil name	Total production (dry weight) in a normal year	Characteristic vegetation	Composition
	Lb/acre		Pct
WF*:			
Wilcox	800	Pinehill bluestem	25
		Panicum	25
		Beaked panicum	31
Falkner	1,500	Pinehill bluestem	33
		Switchcane	27
		Longleaf uniola	20

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Be-------------------- Belden	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Severe: erodes easily.	Severe: flooding.
BrA, BrB-------------- Brooksville	Severe: percs slowly, too clayey.	Severe: too clayey, percs slowly.	Severe: too clayey, percs slowly.	Severe: too clayey.	Severe: too clayey.
CaA------------------- Cahaba	Slight----------	Slight----------	Slight----------	Slight----------	Slight.
Cp-------------------- Catalpa	Severe: flooding, too clayey.	Severe: too clayey.	Severe: too clayey.	Severe: too clayey.	Severe: too clayey.
DeC2*:					
Demopolis-------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: erodes easily.	Severe: thin layer.
Binnsville------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Slight----------	Severe: thin layer.
FaA------------------- Falkner	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.
FaB------------------- Falkner	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.
FK-------------------- Falkner	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.
FrA------------------- Freest	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
FrB------------------- Freest	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
Gr-------------------- Griffith	Severe: flooding, percs slowly, too clayey.	Severe: too clayey, percs slowly.	Severe: too clayey, percs slowly.	Severe: too clayey.	Severe: too clayey.
Je-------------------- Jena	Severe: flooding.	Slight----------	Moderate: flooding.	Slight----------	Moderate: droughty, flooding.
KpA------------------- Kipling	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.

See footnote at end of table.

TABLE 10.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
KpB2 Kipling	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
KpC2 Kipling	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Severe: slope.	Moderate: wetness.	Moderate: wetness.
KpD2 Kipling	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: slope.	Moderate: wetness.	Moderate: wetness, slope.
La Latonia	Severe: flooding.	Slight	Moderate: small stones, flooding.	Slight	Moderate: droughty, flooding.
LC*:					
Latonia	Severe: flooding.	Slight	Moderate: small stones, flooding.	Slight	Moderate: droughty, flooding.
Cahaba	Severe: flooding.	Slight	Moderate: flooding.	Slight	Moderate: flooding.
Le Leeper	Severe: flooding, wetness, percs slowly.	Severe: too clayey, percs slowly.	Severe: too clayey, wetness.	Severe: too clayey.	Severe: too clayey.
LL*:					
Leeper	Severe: flooding, wetness, percs slowly.	Severe: too clayey, percs slowly.	Severe: too clayey, wetness, flooding.	Severe: too clayey.	Severe: flooding, too clayey.
Catalpa	Severe: flooding, too clayey.	Severe: too clayey.	Severe: too clayey, flooding.	Severe: too clayey.	Severe: flooding, too clayey.
LoA Longview	Severe: wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
LR*:					
Longview	Severe: wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Falkner	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.
LuA Lucedale	Slight	Slight	Slight	Slight	Slight.

See footnote at end of table.

TABLE 10.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Ma------------------- Mantachie	Severe: flooding, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, flooding.
Me------------------- Marietta	Severe: flooding.	Moderate: wetness.	Moderate: wetness, flooding.	Moderate: wetness.	Moderate: flooding, wetness.
Mo------------------- Mooreville	Severe: flooding.	Moderate: wetness.	Moderate: wetness, flooding.	Moderate: wetness.	Moderate: wetness, flooding.
Oc------------------- Ochlockonee	Severe: flooding.	Slight---------	Moderate: flooding.	Slight---------	Moderate: flooding.
OkA, OkB------------- Okolona	Severe: percs slowly, too clayey.	Severe: too clayey, percs slowly.	Severe: too clayey, percs slowly.	Severe: too clayey.	Severe: too clayey.
OtB2----------------- Oktibbeha	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight----------	Slight.
OtC2----------------- Oktibbeha	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight----------	Slight.
OuE2*:					
Oktibbeha-----------	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight----------	Moderate: slope.
Sumter---------------	Severe: too clayey.	Severe: too clayey.	Severe: slope, too clayey.	Severe: too clayey, erodes easily.	Severe: too clayey.
OuF2*:					
Oktibbeha-----------	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Severe: erodes easily.	Moderate: slope.
Sumter---------------	Severe: slope, too clayey.	Severe: slope, too clayey.	Severe: slope, too clayey.	Severe: too clayey, erodes easily.	Severe: slope, too clayey.
Pt*:					
Pits.					
Udorthents.					
PuA------------------ Prentiss	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Slight----------	Moderate: droughty.
PuB------------------ Prentiss	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Slight----------	Moderate: droughty.

See footnote at end of table.

TABLE 10.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
PX*:					
Prentiss	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Slight	Moderate: droughty.
Stough	Severe: wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
QU Quitman	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
RuB2, RuC2 Ruston	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
SaA Savannah	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness, droughty.
SaB Savannah	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Moderate: wetness.	Moderate: wetness, droughty.
SaC2 Savannah	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Severe: slope.	Moderate: wetness.	Moderate: wetness, droughty.
SaD2 Savannah	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: slope.	Severe: erodes easily.	Moderate: wetness, droughty.
SeA Sessum	Severe: wetness, percs slowly, too clayey.	Severe: wetness, too clayey, percs slowly.	Severe: too clayey, wetness, percs slowly.	Severe: wetness, too clayey.	Severe: wetness, too clayey.
SmD2 Smithdale	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
SmF3 Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
SP*:					
Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lucy	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
StA Stough	Severe: wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.

See footnote at end of table.

TABLE 10.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
SuB2------------------ Sumter	Severe: too clayey.	Severe: too clayey.	Severe: too clayey.	Severe: too clayey, erodes easily.	Severe: too clayey.
SuD2, SuE2----------- Sumter	Severe: too clayey.	Severe: too clayey.	Severe: slope, too clayey.	Severe: too clayey, erodes easily.	Severe: too clayey.
SvE3*:					
Sumter---------------	Severe: too clayey.	Severe: too clayey.	Severe: slope, too clayey.	Severe: too clayey, erodes easily.	Severe: too clayey.
Demopolis------------	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: erodes easily.	Severe: thin layer.
Rock outcrop.					
SW*:					
Sweatman-------------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, erodes easily.	Severe: slope.
Smithdale------------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
TaA------------------ Talla	Severe: wetness, excess sodium.	Severe: excess sodium.	Severe: wetness, excess sodium.	Moderate: wetness.	Severe: excess sodium.
Ub------------------- Urbo	Severe: flooding, wetness, percs slowly.	Severe: percs slowly.	Severe: wetness.	Moderate: flooding, wetness.	Severe: too clayey.
UM*:					
Urbo-----------------	Severe: flooding, wetness, percs slowly.	Severe: percs slowly.	Severe: wetness.	Moderate: flooding, wetness.	Severe: too clayey.
Mantachie------------	Severe: flooding, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, flooding.
VaA, VaB2------------ Vaiden	Severe: wetness, percs slowly.	Severe: too clayey, percs slowly.	Severe: too clayey, wetness.	Severe: too clayey.	Severe: too clayey.
VaC2----------------- Vaiden	Severe: wetness, percs slowly.	Severe: too clayey, percs slowly.	Severe: slope, too clayey, wetness.	Severe: too clayey.	Severe: too clayey.
VmA------------------ Vimville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
WcB2----------------- Wilcox	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight----------	Moderate: wetness.

See footnote at end of table.

TABLE 10.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
WcC2: Wilcox	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight	Moderate: wetness.
WcD2: Wilcox	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Severe: erodes easily.	Moderate: wetness, slope.
WcF: Wilcox	Severe: slope, percs slowly.	Severe: slope, percs slowly.	Severe: slope, percs slowly.		Severe: slope.
WD: Wilcox	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Severe: erodes easily.	Moderate: wetness, slope.
WF*:					
Wilcox	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight	Moderate: wetness.
Falkner	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--WILDLIFE HABITAT

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Be------------------ Belden	Poor	Fair	Fair	Good	---	Good	Fair	Fair	Fair	Good	Fair.
BrA----------------- Brooksville	Fair	Good	Fair	Poor	Good	---	Fair	Fair	Fair	Good	Fair.
BrB----------------- Brooksville	Fair	Good	Fair	Poor	Good	---	Fair	Fair	Fair	Good	Fair.
CaA----------------- Cahaba	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Cp------------------ Catalpa	Fair	Fair	Fair	Good	---	Good	Fair	Fair	Fair	Good	Fair.
DeC2*:											
Demopolis----------	Poor	Poor	Poor	Poor	Poor	---	Very poor.	Very poor.	Poor	Poor	Very poor.
Binnsville---------	Poor	Poor	Fair	Fair	Fair	---	Poor	Very poor.	Poor	Fair	Very poor.
FaA----------------- Falkner	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
FaB----------------- Falkner	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
FK------------------ Falkner	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
FrA----------------- Freest	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor.
FrB----------------- Freest	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Poor.
Gr------------------ Griffith	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Je------------------ Jena	Poor	Fair	Fair	Good	Good	---	Poor	Poor	Fair	Good	Poor.
KpA----------------- Kipling	Fair	Good	Good	Good	---	---	Fair	Fair	Good	Good	Fair.
KpB2---------------- Kipling	Fair	Good	Good	Good	---	---	Poor	Fair	Good	Good	Poor.
KpC2, KpD2---------- Kipling	Fair	Good	Good	Good	---	---	Very poor.	Very poor.	Good	Good	Very poor.
La------------------ Latonia	Good	Good	Good	Good	Poor	---	Very poor.	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 11.--WILDLIFE HABITAT--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Shrubs	Wetland plants	Shallow water areas	Open-land wild-life	Wood-land wild-life	Wetland wild-life
LC*:											
Latonia	Good	Good	Good	Good	Poor	---	Very poor.	Very poor.	Good	Good	Very poor.
Cahaba	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Le Leeper	Good	Good	Fair	Good	---	Good	Fair	Good	Good	Good	Fair.
LL*:											
Leeper	Poor	Fair	Fair	Good	---	Good	Fair	Good	Fair	Good	Fair.
Catalpa	Poor	Fair	Fair	Good	---	Good	Fair	Fair	Fair	Good	Fair.
LoA Longview	Fair	Good	Good	Good	Good	---	Fair	Fair	Good	Good	Fair.
LR*:											
Longview	Fair	Good	Good	Good	Good	---	Fair	Poor	Good	Good	Poor.
Falkner	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LuA Lucedale	Good	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
Ma Mantachie	Fair	Good	Good	Good	---	---	Fair	Fair	Good	Good	Fair.
Me Marietta	Good	Good	Good	Good	---	Good	Poor	Poor	Good	Good	Poor.
Mo Mooreville	Good	Good	Good	Good	---	Good	Poor	Poor	Good	Good	Poor.
Oc Ochlockonee	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
OkA, OkB Okolona	Good	Good	Fair	Poor	Good	---	Poor	Very poor.	Good	Good	Very poor.
OtB2 Oktibbeha	Fair	Fair	Fair	Good	Good	---	Poor	Very poor.	Fair	Good	Poor.
OtC2 Oktibbeha	Fair	Fair	Fair	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
OuE2*:											
Oktibbeha	Fair	Fair	Fair	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
Sumter	Fair	Fair	Fair	Fair	Fair	---	Very poor.	Very poor.	Fair	Fair	Very poor.

See footnote at end of table.

TABLE 11.--WILDLIFE HABITAT--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
OuF2*:											
Oktibbeha.											
Sumter	Poor	Fair	Fair	Fair	Fair	---	Very poor.	Very poor.	Fair	Fair	Very poor.
Pt*:											
Pits.											
Udorthents.											
PuA, PuB Prentiss	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
PX*:											
Prentiss	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Stough	Fair	Good	Good	Good	Good	---	Fair	Fair	Good	Good	Fair.
QU Quitman	Good	Good	Good	Good	---	Good	Fair	Poor	Good	Good	Poor.
RuB2 Ruston	Good	Good	Good	---	Good	---	Poor	Very poor.	Good	Good	Very poor.
RuC2 Ruston	Fair	Good	Good	---	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
SaA, SaB Savannah	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
SaC2 Savannah	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
SaD2 Savannah	Fair	Good	Good	Fair	Fair	---	Very poor.	Very poor.	Good	Good	Very poor.
SeA Sessum	Poor	Fair	Fair	Fair	Fair	---	Good	Good	Fair	Fair	Good.
SmD2 Smithdale	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
SmF3 Smithdale	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
SP*:											
Smithdale	Very poor.	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
Lucy	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
StA Stough	Fair	Good	Good	Good	Good	---	Fair	Fair	Good	Good	Fair.
SuB2 Sumter	Fair	Fair	Fair	Fair	Fair	---	Poor	Very poor.	Fair	Fair	Very poor.

See footnote at end of table.

TABLE 11.--WILDLIFE HABITAT--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
SuD2, SuE2--------- Sumter	Fair	Fair	Fair	Fair	Fair	---	Very poor.	Very poor.	Fair	Fair	Very poor.
SvE3*:											
Sumter------------	Fair	Fair	Fair	Fair	Fair	---	Very poor.	Very poor.	Fair	Fair	Very poor.
Demopolis---------	Poor	Poor	Poor	Poor	Poor	---	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.											
SW*:											
Sweatman----------	Very poor.	Fair	Good	Good	---	---	Very poor.	Very poor.	Fair	Good	Very poor.
Smithdale---------	Very poor.	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
TaA---------------- Talla	Fair	Good	Good	Good	Good	---	Fair	Fair	Good	Good	Fair.
Ub----------------- Urbo	Fair	Good	Fair	Good	---	Good	Good	Good	Fair	Good	Good.
UM*:											
Urbo--------------	Fair	Good	Fair	Good	---	Good	Good	Good	Fair	Good	Good.
UM*:											
Mantachie---------	Fair	Good	Good	Good	---	---	Fair	Fair	Good	Good	Fair.
VaA---------------- Vaiden	Fair	Fair	Fair	Good	Good	---	Poor	Fair	Fair	Good	Poor.
VaB2, VaC2--------- Vaiden	Fair	Fair	Fair	Good	Good	---	Poor	Poor	Fair	Good	Poor.
VmA---------------- Vimville	Poor	Fair	Fair	Good	Fair	Fair	Good	Good	Fair	Good	Good.
WcB2--------------- Wilcox	Fair	Good	Good	Good	Good	---	Fair	Poor	Good	Good	Poor.
WcC2, WcD2--------- Wilcox	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
WcF---------------- Wilcox	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
WD----------------- Wilcox	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
WF*:											
Wilcox------------	Fair	Good	Good	Good	Good	---	Fair	Poor	Good	Good	Poor.
Falkner-----------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation]

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Be: Belden	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, flooding.	Severe: flooding.
BrA, BrB: Brooksville	Severe: cutbanks cave, wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Severe: too clayey.
CaA: Cahaba	Slight	Slight	Slight	Slight	Slight	Slight.
Cp: Catalpa	Severe: wetness.	Severe: flooding, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, shrink-swell.	Severe: low strength, flooding, shrink-swell.	Severe: too clayey.
DeC2*:						
Demopolis	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock.	Severe: thin layer.
Binnsville	Severe: depth to rock.	Moderate: shrink-swell, depth to rock.	Severe: depth to rock.	Moderate: shrink-swell, slope, depth to rock.	Severe: low strength.	Severe: thin layer.
FaA, FaB, FK: Falkner	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
FrA, FrB: Freest	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
Gr: Griffith	Severe: wetness.	Severe: flooding, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, shrink-swell.	Severe: low strength, flooding, shrink-swell.	Severe: too clayey.
Je: Jena	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: droughty, flooding.
KpA, KpB2, KpC2: Kipling	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
KpD2: Kipling	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness, slope.
La: Latonia	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: droughty, flooding.

See footnote at end of table.

TABLE 12.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
LC*:						
Latonia	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: droughty, flooding.
Cahaba	Moderate: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
Le: Leeper	Severe: wetness.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: low strength, flooding, shrink-swell.	Severe: too clayey.
LL*:						
Leeper	Severe: wetness.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: low strength, flooding, shrink-swell.	Severe: flooding, too clayey.
Catalpa	Severe: wetness.	Severe: flooding, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, shrink-swell.	Severe: low strength, flooding, shrink-swell.	Severe: flooding, too clayey.
LoA: Longview	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength.	Moderate: wetness.
LR*:						
Longview	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength.	Moderate: wetness.
Falkner	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
LuA: Lucedale	Slight	Slight	Slight	Slight	Slight	Slight.
Ma: Mantachie	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.
Me: Marietta	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: flooding, wetness.
Mo: Mooreville	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: low strength, flooding.	Moderate: wetness, flooding.
Oc: Ochlockonee	Moderate: wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
OkA, OkB: Okolona	Severe: cutbanks cave.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Severe: too clayey.
OtB2, OtC2: Oktibbeha	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.

See footnote at end of table.

TABLE 12.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
OuE2*:						
Oktibbeha	Moderate: too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope.
Sumter	Moderate: depth to rock, too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Severe: too clayey.
OuF2*:						
Oktibbeha	Severe: slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope.
Sumter	Severe: slope.	Severe: shrink-swell, slope.	Severe: slope, shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, slope, shrink-swell.	Severe: slope, too clayey.
Pt*:						
Pits.						
Udorthents.						
PuA, PuB Prentiss	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: droughty.
PX*:						
Prentiss	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: droughty.
Stough	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
QU Quitman	Severe: wetness, flooding.	Severe: wetness, flooding.	Severe: wetness, flooding.	Severe: flooding.	Severe: flooding.	Moderate: wetness, flooding.
RuB2 Ruston	Slight	Slight	Slight	Slight	Moderate: low strength.	Slight.
RuC2 Ruston	Slight	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
SaA, SaB Savannah	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
SaC2 Savannah	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness.	Moderate: wetness, droughty.
SaD2 Savannah	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope.	Moderate: wetness, droughty.

See footnote at end of table.

TABLE 12.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
SeA: Sessum	Severe: wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: low strength, wetness, shrink-swell.	Severe: wetness, too clayey.
SmD2: Smithdale	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
SmF3: Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
SP*:						
Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lucy	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
StA: Stough	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
SuB2: Sumter	Moderate: depth to rock, too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Severe: too clayey.
SuD2, SuE2: Sumter	Moderate: depth to rock, too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Severe: too clayey.
SvE3*:						
Sumter	Moderate: depth to rock, too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Severe: too clayey.
Demopolis	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope.	Severe: thin layer.
Rock outcrop.						
SW*:						
Sweatman	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
TaA: Talla	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Severe: excess sodium.
Ub: Urbo	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, flooding.	Severe: too clayey.

See footnote at end of table.

TABLE 12.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
UM*:						
Urbo	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, flooding.	Severe: too clayey.
Mantachie	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.
VaA, VaB2, VaC2 Vaiden	Severe: wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: low strength, shrink-swell.	Severe: too clayey.
VmA Vimville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, low strength.	Severe: wetness.
WcB2, WcC2 Wilcox	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
WcD2 Wilcox	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: wetness, slope.
WcF Wilcox	Severe: wetness, slope.	Severe: shrink-swell, slope.	Severe: wetness, slope, shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, slope, shrink-swell.	Severe: slope.
WD Wilcox	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: wetness, slope.
WF*:						
Wilcox	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
Falkner	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation]

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Be Belden	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
BrA, BrB Brooksville	Severe: wetness, percs slowly.	Severe: wetness.	Severe: too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
CaA Cahaba	Slight	Severe: seepage.	Severe: seepage.	Slight	Fair: thin layer.
Cp Catalpa	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack.
DeC2*: Demopolis	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Poor: area reclaim, small stones.
Binnsville	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: area reclaim, too clayey, hard to pack.
FaA Falkner	Severe: wetness, percs slowly.	Slight	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
FaB Falkner	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
FK Falkner	Severe: wetness, percs slowly.	Slight	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
FrA, FrB Freest	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
Gr Griffith	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack.
Je Jena	Severe: flooding.	Severe: seepage, flooding.	Severe: flooding, seepage.	Severe: flooding, seepage.	Fair: too sandy.
KpA, KpB2, KpC2 Kipling	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.

See footnote at end of table.

TABLE 13.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
KpD2 Kipling	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: wetness, too clayey.	Moderate: wetness, slope.	Poor: too clayey, hard to pack.
La Latonia	Severe: flooding, poor filter.	Severe: seepage, flooding.	Severe: flooding, seepage, too sandy.	Severe: flooding, seepage.	Poor: seepage, too sandy.
LC*:					
Latonia	Severe: flooding, poor filter.	Severe: seepage, flooding.	Severe: flooding, seepage, too sandy.	Severe: flooding, seepage.	Poor: seepage, too sandy.
Cahaba	Severe: flooding.	Severe: seepage, flooding.	Severe: flooding, seepage.	Severe: flooding.	Fair: thin layer.
Le Leeper	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
LL*:					
Leeper	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
Catalpa	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack.
LoA Longview	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
LR*:					
Longview	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Falkner	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
LuA Lucedale	Slight	Moderate: seepage.	Moderate: too clayey.	Slight	Fair: too clayey.
Ma Mantachie	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
Me Marietta	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness.

See footnote at end of table.

TABLE 13.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Mo------------------ Mooreville	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness.
Oc------------------ Ochlockonee	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, wetness.	Fair: wetness.
OkA----------------- Okolona	Severe: percs slowly.	Moderate: wetness.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
OkB----------------- Okolona	Severe: percs slowly.	Moderate: slope, wetness.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
OtB2, OtC2---------- Oktibbeha	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight-----------	Poor: too clayey, hard to pack.
OuE2*:					
Oktibbeha----------	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
Sumter-------------	Severe: depth to rock, percs slowly.	Severe: depth to rock, slope.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: area reclaim, hard to pack.
OuF2*:					
Oktibbeha----------	Severe: percs slowly.	Severe: slope.	Severe: too clayey.		Poor: too clayey, hard to pack.
Sumter-------------	Severe: depth to rock, percs slowly, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope, too clayey.	Severe: depth to rock, slope.	Poor: area reclaim, hard to pack, slope.
Pt*:					
Pits.					
Udorthents.					
PuA, PuB------------ Prentiss	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
PX*:					
Prentiss-----------	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
Stough-------------	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.

See footnote at end of table.

TABLE 13.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
QU------------------ Quitman	Severe: wetness, percs slowly, flooding.	Severe: wetness, flooding.	Severe: wetness, flooding.	Severe: flooding.	Fair: too clayey, wetness.
RuB2, RuC2---------- Ruston	Slight-----------	Moderate: seepage, slope.	Moderate: too clayey.	Slight-----------	Fair: too clayey.
SaA, SaB, SaC2------ Savannah	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Fair: too clayey, wetness.
SaD2---------------- Savannah	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: wetness.	Moderate: wetness, slope.	Fair: too clayey, wetness.
SeA----------------- Sessum	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
SmD2---------------- Smithdale	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: too clayey, slope.
SmF3---------------- Smithdale	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
SP*:					
Smithdale----------	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
Lucy---------------	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: seepage, slope.	Poor: slope.
StA----------------- Stough	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
SuB2---------------- Sumter	Severe: depth to rock, percs slowly.	Severe: depth to rock.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: area reclaim, hard to pack.
SuD2, SuE2---------- Sumter	Severe: depth to rock, percs slowly.	Severe: depth to rock, slope.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: area reclaim, hard to pack.
SvE3*:					
Sumter-------------	Severe: depth to rock, percs slowly.	Severe: depth to rock, slope.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: area reclaim, hard to pack.
Demopolis----------	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.	Poor: area reclaim, small stones.
Rock outcrop.					

See footnote at end of table.

TABLE 13.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
SW*:					
Sweatman	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
Smithdale	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
TaA Talla	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, excess sodium.	Severe: wetness.	Poor: wetness, excess sodium.
Ub Urbo	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
UM*:					
Urbo	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
Mantachie	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
VaA Vaiden	Severe: wetness, percs slowly.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
VaB2, VaC2 Vaiden	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
VmA Vimville	Severe: wetness, percs slowly.	Slight	Severe: wetness.	Severe: wetness.	Poor: wetness.
WcB2, WcC2 Wilcox	Severe: wetness, percs slowly.	Severe: wetness.	Severe: depth to rock, wetness.	Moderate: depth to rock, wetness.	Poor: too clayey, hard to pack.
WcD2 Wilcox	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: depth to rock, wetness.	Moderate: depth to rock, wetness, slope.	Poor: too clayey, hard to pack.
WcF Wilcox	Severe: wetness, percs slowly, slope.	Severe: slope, wetness.	Severe: depth to rock, wetness, slope.	Severe: slope.	Poor: too clayey, hard to pack, slope.
WD Wilcox	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: depth to rock, wetness.	Moderate: depth to rock, wetness, slope.	Poor: too clayey, hard to pack.

See footnote at end of table.

TABLE 13.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
WF*:					
Wilcox	Severe: wetness, percs slowly.	Severe: wetness.	Severe: depth to rock, wetness.	Moderate: depth to rock, wetness.	Poor: too clayey, hard to pack.
Falkner	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation]

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Be-------------------- Belden	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
BrA, BrB-------------- Brooksville	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
CaA------------------- Cahaba	Good-----------------	Improbable: excess fines.	Improbable: excess fines.	Good.
Cp-------------------- Catalpa	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
DeC2*:				
Demopolis------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
Binnsville-----------	Poor: area reclaim, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
FaA, FaB, FK---------- Falkner	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
FrA, FrB-------------- Freest	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
Gr-------------------- Griffith	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Je-------------------- Jena	Good-----------------	Improbable: excess fines.	Improbable: excess fines.	Good.
KpA, KpB2, KpC2, KpD2- Kipling	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
La-------------------- Latonia	Good-----------------	Probable-------------	Improbable: too sandy.	Fair: small stones, thin layer.
LC*:				
Latonia--------------	Good-----------------	Probable-------------	Improbable: too sandy.	Fair: small stones, thin layer.
Cahaba---------------	Good-----------------	Improbable: excess fines.	Improbable: excess fines.	Good.

See footnote at end of table.

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Le----------------------- Leeper	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
LL*:				
Leeper-------------------	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Catalpa------------------	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
LoA---------------------- Longview	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
LR*:				
Longview-----------------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
Falkner------------------	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
LuA---------------------- Lucedale	Good---------------------	Improbable: excess fines.	Improbable: excess fines.	Good.
Ma----------------------- Mantachie	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Me----------------------- Marietta	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
Mo----------------------- Mooreville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
Oc----------------------- Ochlockonee	Good---------------------	Improbable: excess fines.	Improbable: excess fines.	Good.
OkA, OkB----------------- Okolona	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
OtB2, OtC2--------------- Oktibbeha	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
OuE2*:				
Oktibbeha----------------	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
Sumter-------------------	Poor: area reclaim, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.

See footnote at end of table.

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
OuF2*:				
Oktibbeha	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
Sumter	Poor: area reclaim, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
Pt*:				
Pits.				
Udorthents.				
PuA, PuB Prentiss	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
PX*:				
Prentiss	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
Stough	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
QU Quitman	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
RuB2, RuC2 Ruston	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
SaA, SaB, SaC2 Savannah	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
SaD2 Savannah	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: slope.
SeA Sessum	Poor: low strength, wetness, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
SmD2 Smithdale	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, slope.
SmF3 Smithdale	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
SP*:				
Smithdale	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
Lucy	Poor: slope.	Improbable: excess fines, thin layer.	Improbable: excess fines.	Poor: slope.

See footnote at end of table.

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
StA------------------ Stough	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
SuB2, SuD2, SuE2------ Sumter	Poor: area reclaim, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
SvE3*:				
Sumter---------------	Poor: area reclaim, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Demopolis------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
Rock outcrop.				
SW*:				
Sweatman-------------	Poor: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer, slope.
Smithdale------------	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
TaA------------------ Talla	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess sodium.
Ub------------------- Urbo	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
UM*:				
Urbo-----------------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Mantachie------------	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
VaA, VaB2, VaC2------- Vaiden	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
VmA------------------ Vimville	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
WcB2, WcC2, WcD2, WcF, WD------------------ Wilcox	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
WF*:				
Wilcox---------------	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
Falkner--------------	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation]

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
Be: Belden	Moderate: seepage.	Severe: wetness.	Moderate: slow refill.	Flooding	Erodes easily, wetness.	Wetness, erodes easily.
BrA, BrB: Brooksville	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
CaA: Cahaba	Severe: seepage.	Moderate: thin layer, piping.	Severe: no water.	Deep to water	Favorable	Favorable.
Cp: Catalpa	Slight	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly, flooding.	Wetness, percs slowly.	Percs slowly.
DeC2*:						
Demopolis	Severe: depth to rock.	Severe: thin layer.	Severe: no water.	Deep to water	Depth to rock, erodes easily.	Erodes easily, depth to rock.
Binnsville	Severe: depth to rock.	Severe: thin layer.	Severe: no water.	Deep to water	Depth to rock, erodes easily.	Erodes easily, depth to rock.
FaA: Falkner	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
FaB: Falkner	Moderate: slope.	Severe: hard to pack.	Severe: no water.	Percs slowly, slope.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
FK: Falkner	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
FrA: Freest	Slight	Severe: wetness.	Severe: slow refill.	Percs slowly	Wetness, percs slowly.	Percs slowly.
FrB: Freest	Slight	Severe: wetness.	Severe: slow refill.	Percs slowly, slope.	Wetness, percs slowly.	Percs slowly.
Gr: Griffith	Slight	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly, flooding.	Wetness, percs slowly.	Percs slowly.
Je: Jena	Severe: seepage.	Severe: piping, seepage.	Severe: no water.	Deep to water	Favorable	Droughty.
KpA: Kipling	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly	Wetness, percs slowly.	Percs slowly.
KpB2, KpC2: Kipling	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly, slope.	Wetness, percs slowly.	Percs slowly.

See footnote at end of table.

TABLE 15.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
KpD2 Kipling	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly, slope.	Slope, wetness, percs slowly.	Slope, percs slowly.
La Latonia	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy	Droughty.
LC*:						
Latonia	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy	Droughty.
Cahaba	Severe: seepage.	Moderate: thin layer, piping.	Severe: no water.	Deep to water	Favorable	Favorable.
Le Leeper	Slight	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly, flooding.	Wetness, percs slowly.	Wetness, percs slowly.
LL*:						
Leeper	Slight	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly, flooding.	Wetness, percs slowly.	Wetness, percs slowly.
Catalpa	Slight	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly, flooding.	Wetness, percs slowly.	Percs slowly.
LoA Longview	Slight	Moderate: piping, wetness.	Severe: no water.	Favorable	Erodes easily, wetness.	Wetness, erodes easily.
LR*:						
Longview	Slight	Moderate: piping, wetness.	Severe: no water.	Favorable	Erodes easily, wetness.	Wetness, erodes easily.
Falkner	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
LuA Lucedale	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable.
Ma Mantachie	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding	Wetness	Wetness.
Me Marietta	Moderate: seepage.	Severe: wetness.	Moderate: slow refill.	Flooding	Wetness	Favorable.
Mo Mooreville	Moderate: seepage.	Severe: wetness.	Moderate: slow refill.	Flooding	Erodes easily, wetness.	Erodes easily.
Oc Ochlockonee	Severe: seepage.	Severe: piping.	Severe: cutbanks cave.	Deep to water	Favorable	Favorable.

See footnote at end of table.

TABLE 15.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
OkA, OkB: Okolona	Slight	Severe: hard to pack.	Severe: slow refill.	Deep to water	Erodes easily, percs slowly.	Erodes easily, percs slowly.
OtB2, OtC2: Oktibbeha	Moderate: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water	Percs slowly	Percs slowly.
OuE2*:						
Oktibbeha	Severe: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, percs slowly.
Sumter	Severe: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
OuF2*:						
Oktibbeha	Severe: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water	Slope, erodes easily, percs slowly.	Slope, erodes easily, percs slowly.
Sumter	Severe: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
Pt*:						
Pits.						
Udorthents.						
PuA: Prentiss	Moderate: seepage.	Severe: piping.	Severe: no water.	Favorable	Wetness, rooting depth.	Droughty, rooting depth.
PuB: Prentiss	Moderate: seepage.	Severe: piping.	Severe: no water.	Slope	Wetness, rooting depth.	Droughty, rooting depth.
PX*:						
Prentiss	Moderate: seepage.	Severe: piping.	Severe: no water.	Favorable	Wetness, rooting depth.	Droughty, rooting depth.
Stough	Slight	Moderate: piping, wetness.	Severe: no water.	Favorable	Erodes easily, wetness.	Wetness, erodes easily, droughty.
QU: Quitman	Slight	Severe: piping.	Severe: no water.	Favorable	Wetness	Favorable.
RuB2: Ruston	Moderate: seepage.	Severe: thin layer.	Severe: no water.	Deep to water	Favorable	Favorable.
RuC2: Ruston	Moderate: seepage, slope.	Severe: thin layer.	Severe: no water.	Deep to water	Favorable	Favorable.
SaA: Savannah	Moderate: seepage.	Severe: piping.	Severe: no water.	Favorable	Wetness, rooting depth.	Rooting depth.
SaB, SaC2, SaD2: Savannah	Moderate: seepage.	Severe: piping.	Severe: no water.	Slope	Wetness, rooting depth.	Rooting depth.

See footnote at end of table.

TABLE 15.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
SeA: Sessum	Slight	Severe: hard to pack, wetness.	Severe: no water.	Percs slowly	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
SmD2: Smithdale	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope.
SmF3: Smithdale	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope.
SP*:						
Smithdale	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope.
Lucy	Severe: seepage, slope.	Moderate: piping.	Severe: no water.	Deep to water	Too sandy, slope.	Slope, droughty.
StA: Stough	Slight	Moderate: piping, wetness.	Severe: no water.	Favorable	Erodes easily, wetness.	Wetness, erodes easily, droughty.
SuB2: Sumter	Moderate: seepage, depth to rock, slope.	Moderate: hard to pack.	Severe: no water.	Deep to water	Depth to rock, erodes easily.	Erodes easily, depth to rock.
SuD2, SuE2: Sumter	Severe: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
SvE3*:						
Sumter	Severe: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
Demopolis	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, depth to rock.
Rock outcrop.						
SW*:						
Sweatman	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water	Slope, erodes easily.	Slope, erodes easily.
Smithdale	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope.
TaA: Talla	Slight	Severe: excess sodium.	Severe: no water.	Excess sodium	Erodes easily, wetness.	Wetness, excess sodium, erodes easily.
Ub: Urbo	Slight	Severe: wetness.	Severe: slow refill.	Percs slowly, flooding.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.

See footnote at end of table.

TABLE 15.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
UM*:						
Urbo	Slight	Severe: wetness.	Severe: slow refill.	Percs slowly, flooding.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily percs slowly.
Mantachie	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding	Wetness	Wetness.
VaA Vaiden	Slight	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly	Wetness, percs slowly.	Wetness, percs slowly.
VaB2, VaC2 Vaiden	Moderate: slope.	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly, slope.	Wetness, percs slowly.	Wetness, percs slowly.
VmA Vimville	Slight	Severe: wetness.	Severe: slow refill.	Percs slowly	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
WcB2, WcC2 Wilcox	Moderate: depth to rock.	Severe: hard to pack.	Severe: no water.	Percs slowly, slope.	Erodes easily, wetness.	Erodes easily, percs slowly.
WcD2 Wilcox	Moderate: depth to rock.	Severe: hard to pack.	Severe: no water.	Percs slowly, slope.	Slope, erodes easily, wetness.	Slope, erodes easily, percs slowly.
WcF Wilcox	Severe: slope.	Severe: hard to pack.	Severe: no water.	Percs slowly, slope.	Slope, erodes easily, wetness.	Slope, erodes easily, percs slowly.
WD Wilcox	Moderate: depth to rock.	Severe: hard to pack.	Severe: no water.	Percs slowly, slope.	Slope, erodes easily, wetness.	Slope, erodes easily, percs slowly.
WF*:						
Wilcox	Moderate: depth to rock.	Severe: hard to pack.	Severe: no water.	Percs slowly	Erodes easily, wetness.	Erodes easily, percs slowly.
Falkner	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--ENGINEERING INDEX PROPERTIES

[The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated. Some soils may have Unified classifications and USDA textures in addition to those shown. In general, the dominant classifications and textures are shown]

Map symbol and soil name	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Be--------------- Belden	0-6	Silt loam--------	CL, ML	A-4	0	100	100	70-100	50-100	<30	NP-10
	6-65	Silt loam, silty clay loam, clay loam.	CL, ML	A-6, A-7	0	100	100	100	70-95	30-50	12-25
BrA, BrB--------- Brooksville	0-18	Silty clay-------	CL, CH	A-7	0	100	100	95-100	85-95	46-55	25-32
	18-67	Silty clay, clay	CH	A-7	0	100	100	95-100	90-95	50-90	36-65
CaA-------------- Cahaba	0-8	Fine sandy loam	SM	A-4, A-2-4	0	95-100	95-100	65-90	30-45	---	NP
	8-38	Sandy clay loam, loam, clay loam.	SC, CL	A-4, A-6	0	90-100	80-100	75-90	40-75	22-35	8-15
	38-80	Sand, loamy sand, sandy loam.	SM, SP-SM	A-2-4	0	95-100	90-100	60-85	10-35	---	NP
Cp--------------- Catalpa	0-5	Silty clay-------	CL, CH	A-7	0	100	100	95-100	85-100	45-52	24-30
	5-65	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	95-100	85-100	50-75	28-50
DeC2*: Demopolis--------	0-9	Silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	85-100	75-90	65-85	50-80	24-44	6-20
	9-14	Gravelly loam, gravelly clay loam, gravelly silty clay loam.	GC, GM-GC, GP-GC	A-2, A-1	0	20-30	15-25	10-20	8-15	18-38	4-14
	14-40	Weathered bedrock	---	---	---	---	---	---	---	---	---
Binnsville-------	0-9	Silty clay loam	CL, CH	A-7	0	90-100	80-100	75-100	70-95	44-57	22-32
	9-16	Silty clay loam, silty clay.	CL, CH	A-7	10-20	60-90	60-90	60-90	60-90	44-57	22-32
	16-40	Weathered bedrock	---	---	---	---	---	---	---	---	---
FaA, FaB, FK----- Falkner	0-6	Silt loam--------	CL-ML, CL	A-4	0	100	100	95-100	90-100	20-30	5-10
	6-21	Silt loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	85-95	30-45	15-30
	21-62	Silty clay, clay	CH	A-7	0	100	100	90-100	85-95	51-75	30-50
FrA, FrB--------- Freest	0-6	Fine sandy loam	SM, CL, ML CL-ML	A-4	0	100	95-100	60-90	40-70	<30	NP-8
	6-18	Loam, sandy clay loam.	CL	A-4, A-6	0	100	95-100	80-95	55-75	25-40	7-20
	18-70	Clay loam, clay, silty clay.	CL, CH	A-7	0	100	95-100	90-100	80-95	41-55	20-30
Gr--------------- Griffith	0-6	Silty clay-------	CL, CH	A-7	0	100	95-100	95-100	85-95	45-55	24-32
	6-70	Silty clay, clay	CH	A-7	0	100	95-100	75-95	75-95	55-78	32-50

See footnote at end of table.

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Je----------------- Jena	0-7	Fine sandy loam	ML, SM, CL-ML, SM-SC	A-4, A-2-4	0	100	100	60-85	25-55	<22	NP-5
	7-41	Silt loam, very fine sandy loam, loam.	SM, ML, CL-ML, SM-SC	A-4, A-2-4	0	100	100	55-90	25-70	<22	NP-5
	41-70	Fine sandy loam, sandy loam, loamy fine sand.	SM	A-2-4, A-4	0	100	100	50-80	20-50	---	NP
KpA, KpB2, KpC2, KpD2------------ Kipling	0-5	Silt loam--------	ML, CL-ML, CL	A-4	0	100	100	90-100	70-90	<30	NP-10
	5-52	Silty clay, clay, silty clay loam.	CH, CL	A-7, A-6	0	100	100	95-100	85-95	38-70	22-45
	52-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
La---------------- Latonia	0-7	Fine sandy loam	SM	A-2-4, A-4	0	90-100	85-100	60-75	30-50	---	NP
	7-38	Sandy loam, loam, fine sandy loam.	SM	A-2-4, A-4	0	90-100	85-100	60-85	30-50	---	NP
	38-75	Sand, loamy sand	SM, SP-SM	A-2-4	0	90-100	85-100	50-75	10-30	---	NP
LC*:											
Latonia---------	0-7	Fine sandy loam	SM	A-2-4, A-4	0	90-100	85-100	60-75	30-50	---	NP
	7-38	Sandy loam, loam, fine sandy loam.	SM	A-2-4, A-4	0	90-100	85-100	60-85	30-50	---	NP
	38-75	Sand, loamy sand	SM, SP-SM	A-2-4	0	90-100	85-100	50-75	10-30	---	NP
Cahaba----------	0-8	Fine sandy loam	SM	A-4, A-2-4	0	95-100	95-100	65-90	30-45	---	NP
	8-38	Sandy clay loam, loam, clay loam.	SC, CL	A-4, A-6	0	90-100	80-100	75-90	40-75	22-35	8-15
	38-80	Sand, loamy sand, sandy loam.	SM, SP-SM	A-2-4	0	95-100	90-100	60-85	10-35	---	NP
Le---------------- Leeper	0-5	Silty clay--------	CH, MH	A-7	0	100	100	90-100	80-95	55-70	30-45
	5-67	Clay, silty clay, silty clay loam.	CH, MH	A-7	0	100	100	95-100	80-97	52-75	30-50
LL*:											
Leeper----------	0-5	Silty clay--------	CH, MH	A-7	0	100	100	90-100	80-95	55-70	30-45
	5-67	Clay, silty clay, silty clay loam.	CH, MH	A-7	0	100	100	95-100	80-97	52-75	30-50
Catalpa---------	0-5	Silty clay--------	CL, CH	A-7	0	100	100	95-100	85-100	45-52	24-30
	5-65	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	95-100	85-100	50-75	28-50
LoA-------------- Longview	0-4	Silt loam--------	CL, CL-ML	A-4, A-6	0	100	100	95-100	70-90	25-35	7-15
	4-56	Silt loam, silty clay loam.	CL	A-6	0	100	100	90-100	80-95	28-37	11-16
	56-70	Silty clay loam, silt loam.	CL, CH	A-7, A-6	0	100	100	95-100	75-90	38-55	18-30

See footnote at end of table.

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
LR*:											
Longview	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	100	100	95-100	70-90	25-35	7-15
	4-56	Silt loam, silty clay loam.	CL	A-6	0	100	100	90-100	80-95	28-37	11-16
	56-70	Silty clay loam, silt loam.	CL, CH	A-7, A-6	0	100	100	95-100	75-90	38-55	18-30
Falkner	0-6	Silt loam	CL-ML, CL	A-4	0	100	100	95-100	90-100	20-30	5-10
	6-21	Silt loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	85-95	30-45	15-30
	21-62	Silty clay, clay	CH	A-7	0	100	100	90-100	85-95	51-75	30-50
LuA Lucedale	0-7	Fine sandy loam	SM, ML	A-2, A-4	0	100	95-100	80-95	25-65	<30	NP-3
	7-78	Sandy clay loam, clay loam, loam.	CL-ML, SC, CL, SM-SC	A-4, A-6, A-2	0	95-100	95-100	80-100	30-75	25-40	4-15
Ma Mantachie	0-6	Loam	CL-ML, SM-SC, SM ML	A-4	0-5	95-100	90-100	60-85	40-60	<20	NP-5
	6-60	Loam, clay loam, sandy clay loam.	CL, SC, SM-SC, CL-ML	A-4, A-6	0-5	95-100	90-100	80-95	45-80	20-40	5-15
Me Marietta	0-9	Loam	CL, CL-ML, SM-SC	A-4	0	100	100	80-95	40-75	20-30	5-10
	9-60	Silty clay loam, sandy clay loam, loam.	CL, SC	A-6, A-4	0	100	100	85-100	45-90	25-40	8-20
Mo Mooreville	0-7	Loam	CL-ML, CL, SM-SC, SC	A-4	0	100	100	80-100	40-85	20-30	5-10
	7-49	Sandy clay loam, clay loam, loam.	CL, SC	A-6, A-7	0	100	100	80-95	45-80	28-50	15-30
	49-70	Loam, sandy clay loam, clay loam.	SC, CL	A-6, A-7	0	100	100	80-95	45-80	28-50	15-30
Oc Ochlockonee	0-6	Fine sandy loam	SM, ML, SM-SC, CL-ML	A-4, A-2	0	100	95-100	65-90	40-70	<26	NP-5
	6-64	Fine sandy loam, sandy loam, silt loam.	SM, ML, SC CL	A-4	0	100	95-100	95-100	36-75	<32	NP-9
	64-77	Loamy sand, sandy loam, silt loam.	SM, ML, CL SC	A-4, A-2	0	100	95-100	85-99	13-80	<32	NP-9
OkA, OkB Okolona	0-7	Silty clay	CL, CH	A-7	0	100	100	95-100	85-95	46-55	25-32
	7-65	Silty clay, clay	CH	A-7	0	95-100	95-100	95-100	90-95	60-90	36-65
OtB2, OtC2 Oktibbeha	0-4	Silty clay loam	CL, ML	A-6, A-7	0	100	95-100	90-100	70-95	32-50	12-28
	4-36	Clay	CH	A-7	0	100	95-100	95-100	95-100	55-65	30-40
	36-60	Clay, silty clay	CL	A-7	0-5	95-100	90-100	90-100	90-100	41-49	25-30
OuE2*:											
Oktibbeha	0-4	Silty clay loam	CL, ML	A-6, A-7	0	100	95-100	90-100	70-95	32-50	12-28
	4-36	Clay	CH	A-7	0	100	95-100	95-100	95-100	55-65	30-40
	36-60	Clay, silty clay	CL	A-7	0-5	95-100	90-100	90-100	90-100	41-49	25-30

See footnote at end of table.

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
OuE2*:											
Sumter----------	0-4	Silty clay-------	CL	A-7, A-6	0	90-100	85-100	80-98	75-90	35-50	16-25
	4-20	Silty clay, clay, silty clay loam.	CH, CL	A-7, A-6	0	85-100	78-98	75-95	75-95	35-55	16-32
	20-38	Channery silty clay loam, silty clay loam, silty clay.	CH, CL	A-6, A-7	0	80-100	65-98	60-95	55-95	35-55	16-32
	38-50	Weathered bedrock	---	---	---	---	---	---	---	---	---
OuF2*:											
Oktibbeha-------	0-4	Fine sandy loam	ML, SM	A-4	0	100	90-100	65-85	40-60	<30	NP-7
	4-36	Clay-------------	CH	A-7	0	100	95-100	95-100	95-100	55-65	30-40
	36-60	Clay, silty clay	CL	A-7	0-5	95-100	90-100	90-100	90-100	41-49	25-30
Sumter----------	0-4	Silty clay-------	CL	A-7, A-6	0	90-100	85-100	80-98	75-90	35-50	16-25
	4-20	Silty clay, clay, silty clay loam.	CH, CL	A-7, A-6	0	85-100	78-98	75-95	75-95	35-55	16-32
	20-38	Channery silty clay loam, silty clay loam, silty clay.	CH, CL	A-6, A-7	0	80-100	65-98	60-95	55-95	35-55	16-32
	38-50	Weathered bedrock	---	---	---	---	---	---	---	---	---
Pt*:											
Pits.											
Udorthents.											
PuA, PuB--------- Prentiss	0-27	Fine sandy loam	SC, SM-SC, SM	A-4	0	100	100	65-85	36-50	<30	NP-10
	27-64	Loam, sandy loam, fine sandy loam.	CL-ML, CL, SC, SM-SC	A-6, A-4	0	100	100	70-100	40-75	20-35	4-12
PX*:											
Prentiss--------	0-27	Fine sandy loam	SC, SM-SC, SM	A-4	0	100	100	65-85	36-50	<30	NP-10
	27-72	Loam, sandy loam, fine sandy loam.	CL-ML, CL, SC, SM-SC	A-6, A-4	0	100	100	70-100	40-75	20-35	4-12
PX*:											
Stough----------	0-18	Fine sandy loam	SM-SC, SM, ML, CL-ML	A-4	0	100	100	65-85	35-65	<25	NP-7
	18-32	Loam, fine sandy loam.	ML, CL, CL-ML	A-4	0	100	100	75-95	50-75	<25	NP-8
	32-60	Sandy loam, sandy clay loam, loam.	SC, CL	A-4, A-6	0	100	100	65-90	40-65	25-40	8-15
QU--------------- Quitman	0-9	Fine sandy loam	SM, ML	A-4, A-2	0	100	100	85-100	30-55	<20	NP-3
	9-14	Fine sandy loam, loam.	SC, CL, CL-ML, SM-SC	A-4, A-6	0	100	100	90-100	40-70	20-35	4-15
	14-66	Sandy clay loam, loam, clay loam.	CL, SC	A-6, A-7	0	100	100	90-100	40-65	25-45	11-20

See footnote at end of table.

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
RuB2, RuC2------- Ruston	0-4	Fine sandy loam	SM, ML	A-4, A-2-4	0	85-100	78-100	65-100	30-75	<20	NP-3
	4-31	Sandy clay loam, loam, clay loam.	SC, CL	A-6	0	85-100	78-100	70-100	36-75	30-40	11-20
	31-42	Fine sandy loam, sandy loam, loamy sand.	SM, ML, CL-ML, SM-SC	A-4, A-2-4	0	85-100	78-100	65-100	30-75	<27	NP-7
	42-75	Sandy clay loam, loam, clay loam.	SC, CL	A-6	0	85-100	78-100	70-100	36-75	30-42	11-20
SaA, SaB, SaC2, SaD2------------ Savannah	0-6	Fine sandy loam	SM, ML	A-2-4, A-4	0	100	100	60-85	30-55	<25	NP-4
	6-20	Sandy clay loam, clay loam, loam.	CL, SC, CL-ML	A-4, A-6	0	100	100	80-100	40-80	23-40	7-19
	20-70	Loam, clay loam, sandy clay loam.	CL, SC, CL-ML	A-4, A-6, A-7	0	100	100	80-100	40-80	23-43	7-19
SeA-------------- Sessum	0-6	Silty clay-------	CH, CL	A-7	0	100	100	95-100	90-95	45-65	25-40
	6-60	Clay, silty clay, silty clay loam.	CH	A-7	0	100	100	90-100	80-95	55-80	30-55
	60-70	Clay-------------	CH	A-7	0	100	100	95-100	80-90	55-85	30-50
SmD2, SmF3------- Smithdale	0-7	Sandy loam-------	SM, SM-SC	A-4, A-2	0	100	85-100	60-95	28-49	<20	NP-5
	7-45	Clay loam, sandy clay loam, loam.	SM-SC, SC, CL, CL-ML	A-6, A-4	0	100	85-100	80-96	45-75	23-38	7-16
	45-80	Loam, sandy loam	SM, ML, CL SC	A-4	0	100	85-100	65-95	36-70	<30	NP-10
SP*:											
Smithdale-------	0-7	Sandy loam-------	SM, SM-SC	A-4, A-2	0	100	85-100	60-95	28-49	<20	NP-5
	7-45	Clay loam, sandy clay loam, loam.	SM-SC, SC, CL, CL-ML	A-6, A-4	0	100	85-100	80-96	45-75	23-38	7-16
	45-80	Loam, sandy loam	SM, ML, CL SC	A-4	0	100	85-100	65-95	36-70	<30	NP-10
Lucy------------	0-22	Loamy sand-------	SM, SP-SM	A-2	0	98-100	95-100	50-87	10-30	---	NP
	22-70	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SM-SC	A-2, A-4, A-6	0	97-100	95-100	55-95	15-50	10-30	NP-15
StA-------------- Stough	0-18	Fine sandy loam	SM-SC, SM, ML, CL-ML	A-4	0	100	100	65-85	35-65	<25	NP-7
	18-32	Loam, fine sandy loam.	ML, CL, CL-ML	A-4	0	100	100	75-95	50-75	<25	NP-8
	32-60	Sandy loam, sandy clay loam, loam.	SC, CL	A-4, A-6	0	100	100	65-90	40-65	25-40	8-15
SuB2, SuD2, SuE2- Sumter	0-4	Silty clay-------	CL	A-7, A-6	0	90-100	85-100	80-98	75-90	35-50	16-25
	4-20	Silty clay, clay, silty clay loam.	CH, CL	A-7, A-6	0	85-100	78-98	75-95	75-95	35-55	16-32
	20-38	Channery silty clay loam, silty clay loam, silty clay.	CH, CL	A-6, A-7	0	80-100	65-98	60-95	55-95	35-55	16-32
	38-50	Weathered bedrock	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
SvE3*:											
Sumter----------	0-4	Silty clay-------	CL	A-7, A-6	0	90-100	85-100	80-98	75-90	35-50	16-25
	4-20	Silty clay, clay, silty clay loam.	CH, CL	A-7, A-6	0	85-100	78-98	75-95	75-95	35-55	16-32
	20-38	Channery silty clay loam, silty clay loam, silty clay.	CH, CL	A-6, A-7	0	80-100	65-98	60-95	55-95	35-55	16-32
	38-50	Weathered bedrock	---	---	---	---	---	---	---	---	---
Demopolis-------	0-9	Silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	85-100	75-90	65-85	50-80	24-44	6-20
	9-14	Gravelly loam, gravelly clay loam, gravelly silty clay loam.	GC, GM-GC, GP-GC	A-2, A-1	0	20-30	15-25	10-20	8-15	18-38	4-14
	14-40	Weathered bedrock	---	---	---	---	---	---	---	---	---
Rock outcrop.											
SW*:											
Sweatman--------	0-8	Silt loam--------	CL-ML, CL, ML	A-4	0	100	100	90-100	55-90	<35	NP-10
	8-27	Clay, silty clay, silty clay loam.	MH	A-7	0	95-100	95-100	95-100	90-95	60-80	25-40
	27-38	Clay, silty clay, loam.	MH, CL	A-6, A-7	0	95-100	80-100	80-100	70-85	30-70	12-30
	38-60	Stratified weathered bedrock to fine sandy loam.	ML, MH	A-7	0	95-100	75-100	60-95	55-95	41-65	12-30
Smithdale-------	0-7	Sandy loam-------	SM, SM-SC	A-4, A-2	0	100	85-100	60-95	28-49	<20	NP-5
	7-45	Clay loam, sandy clay loam, loam.	SM-SC, SC, CL, CL-ML	A-6, A-4	0	100	85-100	80-96	45-75	23-38	7-16
	45-80	Loam, sandy loam	SM, ML, CL SC	A-4	0	100	85-100	65-95	36-70	<30	NP-10
TaA-------------- Talla	0-12	Loam-------------	ML, SM	A-4	0	100	100	70-90	40-75	<30	NP-4
	12-29	Silt loam, loam, sandy clay loam.	ML	A-4	0	100	90-100	85-100	55-85	20-40	NP-10
	29-60	Loam, sandy clay loam, clay loam.	CL	A-6, A-7	0	100	90-100	80-100	50-80	25-45	10-25
Ub--------------- Urbo	0-5	Silty clay loam	CL	A-6	0	100	100	95-100	95-100	30-40	15-25
	5-70	Silty clay, clay loam, silty clay loam.	CL, CH	A-7	0	100	100	95-100	80-98	44-62	20-36
UM*:											
Urbo------------	0-5	Silty clay loam	CL	A-6	0	100	100	95-100	95-100	30-40	15-25
	5-70	Silty clay, clay loam, silty clay loam.	CL, CH	A-7	0	100	100	95-100	80-98	44-62	20-36
Mantachie-------	0-6	Loam-------------	CL-ML, SM-SC, SM ML	A-4	0-5	95-100	90-100	60-85	40-60	<20	NP-5
	6-60	Loam, clay loam, sandy clay loam.	CL, SC, SM-SC, CL-ML	A-4, A-6	0-5	95-100	90-100	80-95	45-80	20-40	5-15

See footnote at end of table.

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
VaA, VaB2, VaC2-- Vaiden	0-6	Silty clay-------	MH, CH	A-7	0	100	100	95-100	70-90	50-60	20-30
	6-36	Clay-------------	CH, MH	A-7	0	100	100	95-100	85-95	50-90	30-50
	36-60	Clay-------------	CH	A-7	0	100	100	95-100	85-95	50-90	30-52
VmA-------------- Vimville	0-10	Loam-------------	ML, CL-ML	A-4	0	100	100	85-100	60-90	<30	NP-7
	10-65	Clay loam, loam, sandy clay loam.	CL	A-6	0	100	100	90-100	60-80	28-38	10-20
WcB2, WcC2, WcD2, WcF, WD--------- Wilcox	0-5	Silty clay loam	CL, CH	A-7	0	100	100	95-100	80-95	41-51	19-25
	5-50	Clay, silty clay, silty clay loam.	CH	A-7	0	100	100	95-100	80-95	50-72	28-46
	50-57	Clay-------------	CH	A-7	0	100	100	90-100	75-95	60-80	39-55
	57-73	Weathered bedrock	---	---	---	---	---	---	---	---	---
WF*:											
Wilcox----------	0-5	Silty clay loam	CL, CH	A-7	0	100	100	95-100	80-95	41-51	19-25
	5-50	Clay, silty clay, silty clay loam.	CH	A-7	0	100	100	95-100	80-95	50-72	28-46
	50-57	Clay-------------	CH	A-7	0	100	100	90-100	75-95	60-80	39-55
	57-73	Weathered bedrock	---	---	---	---	---	---	---	---	---
Falkner---------	0-6	Silt loam--------	CL-ML, CL	A-4	0	100	100	95-100	90-100	20-30	5-10
	6-21	Silt loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	85-95	30-45	15-30
	21-62	Silty clay, clay	CH	A-7	0	100	100	90-100	85-95	51-75	30-50

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

[The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated]

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cc	In/hr	In/in	pH				Pct
Be----------------	0-6	14-27	1.40-1.50	0.6-2.0	0.20-0.22	5.6-7.3	Low-----------	0.37	5	.5-3
Belden	6-65	25-35	1.40-1.50	0.6-2.0	0.19-0.22	5.6-7.3	Moderate-----	0.32		
BrA, BrB---------	0-18	35-55	1.40-1.50	0.06-0.2	0.20-0.22	5.1-6.5	High---------	0.37	4	1-5
Brooksville	18-67	35-55	1.40-1.50	<0.06	0.18-0.20	6.6-8.4	Very high----	0.32		
CaA--------------	0-8	7-17	1.35-1.60	2.0-6.0	0.10-0.14	4.5-6.0	Low-----------	0.24	5	.5-2
Cahaba	8-38	18-35	1.35-1.60	0.6-2.0	0.12-0.15	4.5-6.0	Low-----------	0.28		
	38-80	4-20	1.40-1.70	2.0-20	0.05-0.10	4.5-6.0	Low-----------	0.24		
Cp---------------	0-5	20-40	1.45-1.65	0.2-0.6	0.19-0.22	6.1-8.4	Moderate-----	0.28	5	2-4
Catalpa	5-65	35-50	1.45-1.60	0.06-0.2	0.18-0.20	6.1-8.4	High---------	0.28		
DeC2*:										
Demopolis-------	0-9	17-35	1.30-1.50	0.2-0.6	0.15-0.18	7.4-8.4	Moderate-----	0.37	1	1-2
	9-14	20-35	1.30-1.50	0.2-0.6	0.10-0.15	7.4-8.4	Low-----------	0.32		
	14-40	---	---	---	---	---	-------------	----		
Binnsville------	0-9	30-45	1.30-1.50	0.06-0.2	0.15-0.18	7.4-8.4	Moderate-----	0.37	1	1-4
	9-16	35-50	1.30-1.50	0.06-0.2	0.12-0.16	7.4-8.4	Moderate-----	0.37		
	16-40	---	---	---	---	---	-------------	----		
FaA, FaB, FK-----	0-6	5-18	1.40-1.55	0.2-0.6	0.20-0.22	4.5-6.0	Low-----------	0.49	4	.5-3
Falkner	6-21	20-35	1.35-1.55	0.2-0.6	0.19-0.22	4.5-6.0	Moderate-----	0.43		
	21-62	38-60	1.40-1.50	0.06-0.2	0.16-0.18	4.5-6.5	High---------	0.24		
FrA, FrB---------	0-6	3-10	1.40-1.50	0.6-2.0	0.10-0.15	4.5-5.5	Low-----------	0.28	5	.5-2
Freest	6-18	10-25	1.40-1.50	0.2-0.6	0.15-0.18	4.5-6.0	Moderate-----	0.32		
	18-70	27-50	1.40-1.55	0.06-0.2	0.15-0.18	4.5-7.3	High---------	0.28		
Gr---------------	0-6	35-45	1.30-1.40	<0.06	0.18-0.20	6.6-8.4	High---------	0.28	5	2-5
Griffith	6-70	42-50	1.35-1.45	<0.06	0.15-0.18	6.6-8.4	Very high----	0.28		
Je---------------	0-7	10-20	1.30-1.70	0.6-2.0	0.12-0.20	4.5-6.0	Low-----------	0.28	5	---
Jena	7-41	10-18	1.40-1.80	0.6-2.0	0.10-0.20	4.5-5.5	Low-----------	0.28		
	41-70	5-20	1.35-1.65	2.0-6.0	0.08-0.14	4.5-5.5	Low-----------	0.24		
KpA, KpB2, KpC2,										
KpD2------------	0-5	16-29	1.30-1.48	0.06-0.2	0.20-0.22	3.6-6.0	Low-----------	0.32	5	.5-2
Kipling	5-52	36-60	1.37-1.41	0.06-0.2	0.20-0.22	3.6-8.4	High---------	0.32		
	52-60	---	---	---	---	---	-------------	---		
La---------------	0-7	10-20	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low-----------	0.20	4	---
Latonia	7-38	10-16	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low-----------	0.20		
	38-75	3-10	1.40-1.50	6.0-20	0.05-0.10	4.5-5.5	Very low-----	0.17		
LC*:										
Latonia---------	0-7	10-20	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low-----------	0.20	4	---
	7-38	10-16	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low-----------	0.20		
	38-75	3-10	1.40-1.50	6.0-20	0.05-0.10	4.5-5.5	Very low-----	0.17		
Cahaba----------	0-8	7-17	1.35-1.60	2.0-6.0	0.10-0.14	4.5-6.0	Low-----------	0.24	5	.5-2
	8-38	18-35	1.35-1.60	0.6-2.0	0.12-0.15	4.5-6.0	Low-----------	0.28		
	38-80	4-20	1.40-1.70	2.0-20	0.05-0.10	4.5-6.0	Low-----------	0.24		

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
Le---------------- Leeper	0-5	40-50	1.45-1.65	0.06-0.2	0.18-0.22	5.6-8.4	High---------	0.32	5	1-4
	5-67	35-50	1.40-1.60	<0.06	0.18-0.20	5.6-8.4	High---------	0.32		
LL*:										
Leeper----------	0-5	40-50	1.45-1.65	0.06-0.2	0.18-0.22	5.6-8.4	High---------	0.32	5	1-4
	5-67	35-50	1.40-1.60	<0.06	0.18-0.20	5.6-8.4	High---------	0.32		
Catalpa---------	0-5	20-40	1.45-1.65	0.2-0.6	0.19-0.22	6.1-8.4	Moderate-----	0.28	5	2-4
	5-65	35-50	1.45-1.60	0.06-0.2	0.18-0.20	6.1-8.4	High---------	0.28		
LoA-------------- Longview	0-4	10-18	1.30-1.40	0.6-2.0	0.20-0.22	3.6-5.5	Low----------	0.43	5	1-3
	4-56	18-27	1.40-1.50	0.2-0.6	0.18-0.20	3.6-5.5	Low----------	0.43		
	56-70	18-35	1.40-1.50	0.2-0.6	0.15-0.20	3.6-5.5	Moderate-----	0.43		
LR*:										
Longview--------	0-4	10-18	1.30-1.40	0.6-2.0	0.20-0.22	3.6-5.5	Low----------	0.43	5	1-3
	4-56	18-27	1.40-1.50	0.2-0.6	0.18-0.20	3.6-5.5	Low----------	0.43		
	56-70	18-35	1.40-1.50	0.2-0.6	0.15-0.20	3.6-5.5	Moderate-----	0.43		
Falkner---------	0-6	5-18	1.40-1.55	0.2-0.6	0.20-0.22	4.5-6.0	Low----------	0.49	4	.5-3
	6-21	20-35	1.35-1.55	0.2-0.6	0.19-0.22	4.5-6.0	Moderate-----	0.43		
	21-62	38-60	1.40-1.50	0.06-0.2	0.16-0.18	4.5-6.5	High---------	0.24		
LuA-------------- Lucedale	0-7	1-10	1.40-1.55	0.6-2.0	0.15-0.20	5.1-6.5	Low----------	0.24	5	.5-2
	7-78	20-30	1.55-1.70	0.6-2.0	0.14-0.18	4.5-5.5	Low----------	0.24		
Ma--------------- Mantachie	0-6	8-20	1.50-1.60	0.6-2.0	0.16-0.20	4.5-5.5	Low----------	0.28	5	1-3
	6-60	18-34	1.50-1.60	0.6-2.0	0.14-0.20	4.5-5.5	Low----------	0.28		
Me--------------- Marietta	0-9	5-20	1.50-1.55	0.6-2.0	0.14-0.18	5.6-7.8	Low----------	0.28	5	2-4
	9-60	18-30	1.40-1.55	0.6-2.0	0.14-0.20	5.6-7.8	Low----------	0.28		
Mo--------------- Mooreville	0-7	5-27	1.40-1.50	0.6-2.0	0.14-0.20	4.5-5.5	Low----------	0.37	5	.5-2
	7-49	18-35	1.40-1.50	0.6-2.0	0.14-0.18	4.5-5.5	Moderate-----	0.28		
	49-70	10-40	---	0.6-2.0	0.14-0.18	4.5-5.5	Moderate-----	0.28		
Oc--------------- Ochlockonee	0-6	3-18	1.40-1.60	2.0-6.0	0.07-0.14	4.5-5.5	Low----------	0.20	5	.5-2
	6-64	8-18	1.40-1.60	0.6-2.0	0.10-0.20	4.5-5.5	Low----------	0.20		
	64-77	3-18	1.40-1.70	2.0-6.0	0.06-0.12	4.5-5.5	Low----------	0.17		
OkA, OkB--------- Okolona	0-7	27-50	1.30-1.50	<0.06	0.20-0.22	6.6-8.4	High---------	0.37	4	1-4
	7-65	40-55	1.30-1.50	<0.06	0.18-0.20	6.6-8.4	Very high----	0.32		
OtB2, OtC2------- Oktibbeha	0-4	27-40	1.20-1.50	0.06-2.0	0.13-0.17	4.5-6.5	Moderate-----	0.32	3	3-6
	4-36	50-65	1.00-1.30	<0.06	0.12-0.16	4.5-6.5	High---------	0.32		
	36-60	60-77	1.10-1.40	<0.06	0.05-0.10	6.6-8.4	High---------	0.32		
OuE2*:										
Oktibbeha-------	0-4	27-40	1.20-1.50	0.06-2.0	0.13-0.17	4.5-6.5	Moderate-----	0.32	3	3-6
	4-36	50-65	1.00-1.30	<0.06	0.12-0.16	4.5-6.5	High---------	0.32		
	36-60	60-77	1.10-1.40	<0.06	0.05-0.10	6.6-8.4	High---------	0.32		
Sumter----------	0-4	32-50	1.30-1.60	0.06-2.0	0.12-0.17	6.6-8.4	High---------	0.37	3	2-5
	4-20	35-57	1.15-1.55	0.06-2.0	0.12-0.17	7.4-8.4	High---------	0.37		
	20-38	35-57	1.15-1.50	0.06-2.0	0.11-0.16	7.4-8.4	Moderate-----	0.32		
	38-50	---	---	---	---	---	-------------	----		

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
OuF2*:										
Oktibbeha-------	0-4	10-18	1.20-1.50	0.6-2.0	0.10-0.15	4.5-6.5	Low----------	0.37	3	4-7
	4-36	50-65	1.00-1.30	<0.06	0.12-0.16	4.5-6.5	High---------	0.32		
	36-60	60-77	1.10-1.40	<0.06	0.05-0.10	6.6-8.4	High---------	0.32		
Sumter----------	0-4	32-50	1.30-1.60	0.06-2.0	0.12-0.17	6.6-8.4	High---------	0.37	3	2-5
	4-20	35-57	1.15-1.55	0.06-2.0	0.12-0.17	7.4-8.4	High---------	0.37		
	20-38	35-57	1.15-1.50	0.06-2.0	0.11-0.16	7.4-8.4	Moderate-----	0.32		
	38-50	---	---	---	---	---	-------------	----		
Pt*:										
Pits.										
Udorthents.										
PuA, PuB--------- Prentiss	0-27	5-18	1.50-1.60	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.28	3	---
	27-64	10-20	1.65-1.75	0.2-0.6	0.06-0.09	4.5-5.5	Low----------	0.24		
PX*:										
Prentiss--------	0-27	5-18	1.50-1.60	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.28	3	---
	27-72	10-20	1.65-1.75	0.2-0.6	0.06-0.09	4.5-5.5	Low----------	0.24		
PX*:										
Stough----------	0-18	5-15	1.40-1.55	0.6-2.0	0.12-0.18	4.5-5.5	Low----------	0.37	3	---
	18-32	8-18	1.45-1.60	0.2-0.6	0.07-0.11	4.5-5.5	Low----------	0.37		
	32-60	5-27	1.55-1.65	0.2-0.6	0.07-0.11	4.5-5.5	Low----------	0.37		
QU-------------- Quitman	0-9	5-15	1.40-1.55	0.6-2.0	0.13-0.16	4.5-5.5	Low----------	0.28	5	1-3
	9-14	18-32	1.55-1.65	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.28		
	14-66	18-35	1.50-1.60	0.2-0.6	0.10-0.18	4.5-5.5	Low----------	0.28		
RuB2, RuC2------- Ruston	0-4	5-20	1.30-1.70	0.6-2.0	0.09-0.16	4.5-6.5	Low----------	0.28	5	.5-2
	4-31	18-35	1.40-1.80	0.6-2.0	0.12-0.17	4.5-6.0	Low----------	0.28		
	31-42	10-20	1.30-1.70	0.6-2.0	0.12-0.15	4.5-6.0	Low----------	0.32		
	42-75	15-38	1.40-1.70	0.6-2.0	0.12-0.17	4.5-6.0	Low----------	0.28		
SaA, SaB, SaC2, SaD2------------ Savannah	0-6	3-16	1.45-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24	3	.5-3
	6-20	18-32	1.55-1.75	0.6-2.0	0.13-0.20	4.5-5.5	Low----------	0.28		
	20-70	18-32	1.60-1.80	0.2-0.6	0.05-0.10	4.5-5.5	Low----------	0.24		
SeA------------- Sessum	0-6	30-45	1.40-1.50	0.06-0.2	0.18-0.20	4.5-6.0	High---------	0.37	5	1-3
	6-60	38-60	1.40-1.60	<0.06	0.17-0.19	4.5-6.0	Very high----	0.32		
	60-70	40-60	1.40-1.60	<0.06	0.10-0.15	5.6-8.4	Very high----	0.32		
SmD2, SmF3------- Smithdale	0-7	2-15	1.40-1.50	2.0-6.0	0.14-0.16	4.5-5.5	Low----------	0.28	5	.5-2
	7-45	18-33	1.40-1.55	0.6-2.0	0.15-0.17	4.5-5.5	Low----------	0.24		
	45-80	12-27	1.40-1.55	2.0-6.0	0.14-0.16	4.5-5.5	Low----------	0.28		
SP*:										
Smithdale-------	0-7	2-15	1.40-1.50	2.0-6.0	0.14-0.16	4.5-5.5	Low----------	0.28	5	.5-2
	7-45	18-33	1.40-1.55	0.6-2.0	0.15-0.17	4.5-5.5	Low----------	0.24		
	45-80	12-27	1.40-1.55	2.0-6.0	0.14-0.16	4.5-5.5	Low----------	0.28		
Lucy------------	0-22	1-12	1.30-1.70	6.0-20	0.06-0.10	5.1-6.0	Low----------	0.15	5	.5-1
	22-70	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	Low----------	0.24		
StA-------------- Stough	0-18	5-15	1.40-1.55	0.6-2.0	0.12-0.18	4.5-5.5	Low----------	0.37	3	---
	18-32	8-18	1.45-1.60	0.2-0.6	0.07-0.11	4.5-5.5	Low----------	0.37		
	32-60	5-27	1.55-1.65	0.2-0.6	0.07-0.11	4.5-5.5	Low----------	0.37		

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
SuB2, SuD2, SuE2- Sumter	0-4	32-50	1.30-1.60	0.06-2.0	0.12-0.17	6.6-8.4	High	0.37	3	2-5
	4-20	35-57	1.15-1.55	0.06-2.0	0.12-0.17	7.4-8.4	High	0.37		
	20-38	35-57	1.15-1.50	0.06-2.0	0.11-0.16	7.4-8.4	Moderate	0.32		
	38-50	---	---	---	---	---	---	---		
SvE3*:										
Sumter	0-4	32-50	1.30-1.60	0.06-2.0	0.12-0.17	6.6-8.4	High	0.37	3	2-5
	4-20	35-57	1.15-1.55	0.06-2.0	0.12-0.17	7.4-8.4	High	0.37		
	20-38	35-57	1.15-1.50	0.06-2.0	0.11-0.16	7.4-8.4	Moderate	0.32		
	38-50	---	---	---	---	---	---	---		
Demopolis	0-9	17-35	1.30-1.50	0.2-0.6	0.15-0.18	7.4-8.4	Moderate	0.37	1	1-2
	9-14	20-35	1.30-1.50	0.2-0.6	0.10-0.15	7.4-8.4	Low	0.32		
	14-40	---	---	---	---	---	---	---		
Rock outcrop.										
SW*:										
Sweatman	0-8	5-20	1.40-1.60	0.6-2.0	0.20-0.22	4.5-5.5	Low	0.37	3	.5-2
	8-27	35-55	1.40-1.50	0.2-0.6	0.16-0.20	4.5-5.5	Moderate	0.28		
	27-38	35-55	1.40-1.55	0.2-0.6	0.16-0.20	4.5-5.5	Moderate	0.28		
	38-60	---	---	0.2-0.6	0.10-0.18	4.5-5.5	Moderate	---		
Smithdale	0-7	2-15	1.40-1.50	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28	5	.5-2
	7-45	18-33	1.40-1.55	0.6-2.0	0.15-0.17	4.5-5.5	Low	0.24		
	45-80	12-27	1.40-1.55	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28		
TaA Talla	0-12	10-18	1.40-1.50	0.6-2.0	0.10-0.16	4.5-5.5	Low	0.37	4	---
	12-29	18-27	1.45-1.70	0.2-0.6	0.12-0.16	4.5-5.5	Low	0.37		
	29-60	18-35	1.45-1.70	0.2-0.6	0.12-0.16	4.5-5.5	Moderate	0.37		
Ub Urbo	0-5	12-35	1.40-1.50	0.06-0.2	0.19-0.21	4.5-5.5	Low	0.49	5	1-3
	5-70	35-55	1.45-1.55	<0.06	0.18-0.20	4.5-5.5	Moderate	0.28		
UM*:										
Urbo	0-5	12-35	1.40-1.50	0.06-0.2	0.19-0.21	4.5-5.5	Low	0.49	5	1-3
	5-70	35-55	1.45-1.55	<0.06	0.18-0.20	4.5-5.5	Moderate	0.28		
Mantachie	0-6	8-20	1.50-1.60	0.6-2.0	0.16-0.20	4.5-5.5	Low	0.28	5	1-3
	6-60	18-34	1.50-1.60	0.6-2.0	0.14-0.20	4.5-5.5	Low	0.28		
VaA, VaB2, VaC2-- Vaiden	0-6	25-55	---	0.06-0.2	0.10-0.15	4.5-6.5	High	0.32	4	.5-2
	6-36	60-75	---	<0.06	0.10-0.15	4.5-6.0	Very high	0.32		
	36-60	40-75	---	<0.06	0.10-0.15	4.5-7.8	Very high	0.32		
VmA Vimville	0-10	10-16	1.50-1.55	0.6-2.0	0.18-0.20	4.5-6.5	Low	0.37	3	2-3
	10-65	18-35	1.60-1.70	0.06-0.2	0.16-0.20	5.1-7.8	Moderate	0.32		
WcB2, WcC2, WcD2, WcF, WD Wilcox	0-5	15-55	1.40-1.45	0.06-0.2	0.19-0.21	4.5-5.5	High	0.37	4	.5-2
	5-50	38-60	1.40-1.50	<0.06	0.18-0.20	3.6-5.5	High	0.32		
	50-57	40-70	1.40-1.55	<0.06	0.15-0.18	3.6-5.5	High	0.28		
	57-73	---	---	---	---	---	---	---		

See footnote at end of table.

TABLE 17.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
WF*:										
Wilcox----------	0-5	15-55	1.40-1.45	0.06-0.2	0.19-0.21	4.5-5.5	High---------	0.37	4	.5-2
	5-50	38-60	1.40-1.50	<0.06	0.18-0.20	3.6-5.5	High---------	0.32		
	50-57	40-70	1.40-1.55	<0.06	0.15-0.18	3.6-5.5	High---------	0.28		
	57-73	---	---	---	---	---	-------------	-----		
Falkner---------	0-6	5-18	1.40-1.55	0.2-0.6	0.20-0.22	4.5-6.0	Low----------	0.49	4	.5-3
	6-21	20-35	1.35-1.55	0.2-0.6	0.19-0.22	4.5-6.0	Moderate-----	0.43		
	21-62	38-60	1.40-1.50	0.06-0.2	0.16-0.18	4.5-6.5	High---------	0.24		

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 18.--SOIL AND WATER FEATURES

["Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydro-logic group	Flooding			High water table			Bedrock		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
					Ft			In			
Be----------------- Belden	C	Frequent----	Long------	Jan-Mar	1.0-1.5	Apparent	Jan-Mar	>60	---	High-----	Low.
BrA, BrB---------- Brooksville	D	None--------	---	---	2.0-4.0	Perched	Jan-Mar	>60	---	High-----	Moderate.
CaA--------------- Cahaba	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
Cp---------------- Catalpa	C	Occasional	Brief-----	Dec-Apr	1.5-2.0	Apparent	Feb-Mar	>60	---	High-----	Low.
DeC2*:											
Demopolis--------	C	None--------	---	---	>6.0	---	---	4-20	Soft	Moderate	Low.
Binnsville-------	D	None--------	---	---	>6.0	---	---	6-18	Soft	Moderate	Low.
FaA, FaB, FK------ Falkner	C	None--------	---	---	1.5-2.5	Perched	Jan-Mar	>60	---	High-----	Moderate.
FrA, FrB---------- Freest	C	None--------	---	---	1.5-2.5	Apparent	Jan-Apr	>60	---	High-----	High.
Gr---------------- Griffith	D	Occasional	Brief-----	Jan-Mar	1.5-2.5	Apparent	Jan-Mar	>60	---	High-----	Low.
Je---------------- Jena	B	Occasional	Brief-----	Dec-Apr	>6.0	---	---	>60	---	Low------	High.
KpA, KpB2, KpC2, KpD2------------ Kipling	D	None--------	---	---	1.5-3.0	Perched	Jan-Mar	>60	---	High-----	High.
La---------------- Latonia	B	Occasional	Brief-----	Nov-Apr	>6.0	---	---	>60	---	Low------	Moderate.
LC*:											
Latonia----------	B	Occasional	Brief-----	Jan-Apr	>6.0	---	---	>60	---	Low------	Moderate.
Cahaba-----------	B	Occasional	Brief-----	Jan-Apr	>6.0	---	---	>60	---	Moderate	Moderate.
Le---------------- Leeper	D	Occasional	Brief-----	Jan-Mar	1.0-2.0	Apparent	Jan-Mar	>60	---	High-----	Low.
LL*:											
Leeper-----------	D	Frequent----	Brief-----	Jan-Mar	1.0-2.0	Apparent	Jan-Mar	>60	---	High-----	Low.
Catalpa----------	C	Frequent----	Brief-----	Jan-Mar	1.5-2.0	Apparent	Feb-Mar	>60	---	High-----	Low.
LoA--------------- Longview	C	None--------	---	---	1.0-3.0	Perched	Dec-Apr	>60	---	High-----	High.

See footnote at end of table.

TABLE 18.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydro-logic group	Flooding			High water table			Bedrock		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
					Ft			In			
LR*:											
Longview	C	None	---	---	1.0-3.0	Perched	Dec-Apr	>60	---	High	High.
Falkner	C	None	---	---	1.5-2.5	Perched	Jan-Mar	>60	---	High	Moderate.
LuA Lucedale	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
Ma Mantachie	C	Occasional	Brief	Jan-Mar	1.0-1.5	Apparent	Dec-Mar	>60	---	High	High.
Me Marietta	C	Occasional	Brief	Jan-Mar	1.5-2.0	Apparent	Jan-Mar	>60	---	Moderate	Low.
Mo Mooreville	C	Occasional	Brief	Jan-Mar	1.5-3.0	Apparent	Jan-Mar	>60	---	Moderate	High.
Oc Ochlockonee	B	Occasional	Brief	Dec-Apr	3.0-5.0	Apparent	Dec-Apr	>60	---	Low	High.
OkA, OkB Okolona	D	None	---	---	4.0-6.0	Apparent	Jan-Mar	>60	Soft	High	Moderate.
OtB2, OtC2 Oktibbeha	D	None	---	---	>6.0	---	---	>60	---	High	High.
OuE2*, OuF2*:											
Oktibbeha	D	None	---	---	>6.0	---	---	>60	---	High	High.
Sumter	C	None	---	---	>6.0	---	---	20-40	Soft	Moderate	Low.
Pt*: Pits.											
Udorthents.											
PuA, PuB Prentiss	C	None	---	---	2.0-2.5	Perched	Jan-Mar	>60	---	Moderate	High.
PX*:											
Prentiss	C	None	---	---	2.0-2.5	Perched	Jan-Mar	>60	---	Moderate	High.
Stough	C	None	---	---	1.0-1.5	Perched	Jan-Apr	>60	---	Moderate	High.
QU Quitman	C	Occasional	Brief	Dec-Apr	1.5-2.0	Perched	Jan-Mar	>60	---	High	Moderate.
RuB2, RuC2 Ruston	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
SaA, SaB, SaC2, SaD2 Savannah	C	None	---	---	1.5-3.0	Perched	Jan-Mar	>60	---	Moderate	High.
SeA Sessum	D	None	---	---	0.5-1.5	Perched	Feb-Apr	>60	---	High	Moderate.
SmD2, SmF3 Smithdale	B	None	---	---	>6.0	---	---	>60	---	Low	Moderate.

See footnote at end of table.

TABLE 18.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydro-logic group	Flooding			High water table			Bedrock		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
					Ft			In			
SP*:											
Smithdale--------	B	None--------	---	---	>6.0	---	---	>60	---	Low------	Moderate.
Lucy-------------	A	None--------	---	---	>6.0	---	---	>60	---	Low------	High.
StA--------------- Stough	C	None--------	---	---	1.0-1.5	Perched	Jan-Apr	>60	---	Moderate	High.
SuB2, SuD2, SuE2-- Sumter	C	None--------	---	---	>6.0	---	---	20-40	Soft	Moderate	Low.
SvE3*:											
Sumter-----------	C	None--------	---	---	>6.0	---	---	20-40	Soft	Moderate	Low.
Demopolis--------	C	None--------	---	---	>6.0	---	---	4-20	Soft	Moderate	Low.
Rock outcrop.											
SW*:											
Sweatman---------	C	None--------	---	---	>6.0	---	---	>60	---	High-----	High.
Smithdale--------	B	None--------	---	---	>6.0	---	---	>60	---	Low------	Moderate.
TaA--------------- Talla	C	None--------	---	---	1.0-3.0	Perched	Dec-Apr	>60	---	High-----	High.
Ub---------------- Urbo	D	Occasional	Brief-----	Jan-Mar	1.0-2.0	Apparent	Jan-Mar	>60	---	High-----	High.
UM*:											
Urbo-------------	D	Occasional	Brief-----	Jan-Mar	1.0-2.0	Apparent	Jan-Mar	>60	---	High-----	High.
Mantachie--------	C	Occasional	Brief-----	Jan-Mar	1.0-1.5	Apparent	Dec-Mar	>60	---	High-----	High.
VaA, VaB2, VaC2--- Vaiden	D	None--------	---	---	1.0-2.0	Apparent	Nov-Mar	>60	---	High-----	High.
VmA--------------- Vimville	D	None--------	---	---	0.5-1.0	Apparent	Nov-May	>60	---	High-----	Moderate.
WcB2, WcC2, WcD2, WcF, WD---------- Wilcox	D	None--------	---	---	1.5-3.0	Perched	Jan-Apr	40-60	Soft	High-----	High.
WF*:											
Wilcox-----------	D	None--------	---	---	1.5-3.0	Perched	Jan-Apr	40-60	Soft	High-----	High.
Falkner----------	C	None--------	---	---	1.5-2.5	Perched	Jan-Mar	>60	---	High-----	Moderate.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 19.--PHYSICAL AND CHEMICAL ANALYSES OF SELECTED SOILS

[Analyses by the Soil Genesis and Morphology Laboratory of the Mississippi Agricultural and Forestry Experiment Station, Mississippi State. The soils are the typical pedon for the series. For a description of the soils and their location, see the section "Soil series and their morphology"]

Soil name	Horizon	Depth	Particle-size distribution: Sand (2.0-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Extractable cations: Ca	Mg	K	Na	Extractable acidity	Cation-exchange capacity	Base saturation	Reaction 1:1 Soil: Water	Organic matter
		In	Pct	Pct	Pct	meq/100g						Pct	pH	Pct
Griffith	Ap	0-6	6.1	45.0	48.9	56.52	0.64	0.69	0.19	0.75	58.79	98.7	7.6	4.1
	A1	6-18	4.8	43.0	52.2	57.14	0.18	0.31	0.18	2.74	60.55	95.4	7.7	2.3
	A2	18-28	4.8	39.7	55.5	54.40	0.15	0.24	0.20	2.59	57.58	95.5	7.7	1.4
	AC1	28-42	4.4	37.7	57.9	52.37	0.20	0.23	0.17	3.82	56.79	93.2	7.8	1.1
	AC2	42-56	5.9	37.1	57.0	54.22	0.28	0.27	0.14	3.57	58.48	93.8	7.8	0.9
	AC3	56-70	6.1	38.5	55.4	54.04	0.34	0.29	0.11	2.12	56.90	96.2	7.7	0.9
Sessum	Ap	0-6	12.0	44.1	43.9	32.89	6.85	0.60	0.09	14.59	55.02	73.4	5.4	5.5
	Btg1	6-10	7.5	39.2	53.3	29.00	6.06	0.21	0.19	19.94	55.40	64.0	4.9	1.6
	Btg2	10-24	6.1	34.8	59.1	25.98	5.23	0.17	0.40	25.18	56.96	55.7	4.8	0.8
	Btg3	24-40	4.4	31.3	64.3	33.56	6.10	0.21	0.99	17.75	58.61	69.7	4.6	0.3
	Btg4	40-54	9.1	41.3	49.6	29.77	5.35	0.16	1.03	14.29	50.60	71.7	4.7	0.2
	BC	54-60	4.7	30.4	64.9	42.33	7.67	0.25	1.85	15.41	67.51	77.1	4.7	0.2
	C	60-70	6.7	10.6	82.7	67.84	8.78	0.36	3.31	1.11	81.40	98.6	7.3	0.3

TABLE 20.--ENGINEERING INDEX TEST DATA

[Tests performed by the Bureau of Public Roads in accordance with standard procedures of the American Association of State Highway (and Transportation) Officials]

Soil name, report number, horizon, and depth in inches	Bureau of Public Roads report number	Classification		Grain-size distribution[1]									Liquid limit	Plasticity index	Moisture density[2]	
				Percentage passing seive--					Percentage smaller than--						Maximum dry density	Optimum moisture
		AASHTO[3]	Unified[4]	No. 4	No. 10	No. 40	No. 60	No. 200	.05 mm	.02 mm	.005 mm	.002 mm				
													Pct		Lb/ft^3	Pct
Wilcox silt loam[5]: (S58MS-52-02)																
Bt1---------- 4 to 11	S33694	A-7-6(24)	CH	100	100	97	95	92	91	76	54	44	51	23	98	24
Btg----------16 to 36	S33695	A-7-5(45)	CH	100	100	98	97	95	95	87	68	56	72	39	93	27
C(Shale)-----56 to 72	S33696	A-7-5(103)	MH	100	100	100	100	100	99	98	96	90	135	80	75	41
Wilcox silt loam[6]: (S58MS-52-03)																
Ap----------- 0 to 5	S33697	A-7-6(19)	CL	100	100	96	92	89	88	76	51	40	45	19	99	23
Btg----------15 to 33	S33698	A-7-6(36)	CH	100	100	97	96	94	94	83	60	52	59	32	98	24
C2(Shale)----57 to 73	S33699	A-7-5(81)	MH	100	100	100	100	99	99	96	91	80	104	52	77	40

1 Mechanical analyses according to the American Association of State Highway (and Transportation) Officials Designation T 88. Results by this procedure frequently differ somewhat from results that would have been obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHTO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material, including that coarser than 2 mm. in diameter. In the SCS procedure, the fine material is analyzed by the pipette method and the material coarser than 2 mm. in diameter is excluded from calculations of grain-size fractions. The mechanical analyses used in this table are not suitable for use in naming texture classes for soils.

2 Based on the moisture-density relations of soils, using 5.5-lb. rammer and 12-in. drop, AASHTO Designation T 99-57, Method A.

3 Based on Standard Specifications for Highway Materials and Methods of Sampling and Testing (Pt. 1, Ed. 7): The Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes, AASHTO Designation M 145-66.

4 Based on the Unified Soil Classification System, Technical Memorandum No. 3-357, Volume 1, Waterways Experiment Station, Corps of Engineers, March 1953.

5 About 3 miles west of center of Shuqualak on State Highway 39, 2 miles north on a local road, and east in a pasture. (Site is 250 feet west and 100 feet north of the southeast corner of SW1/4SE 1/4 sec. 12, T. 13 N., R. 16 E.) This is not the typical pedon for the series.

6 About 5 miles west of Shuqualak and 160 feet south of a gravel road, in a wooded area; NW1/4NE 1/4 sec. 15, T. 13 N., R. 16 E.

TABLE 21.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Belden	Fine-silty, mixed, nonacid, thermic Aeric Fluvaquents
Binnsville	Clayey, carbonatic, thermic, shallow Typic Rendolls
Brooksville	Fine, montmorillonitic, thermic Aquic Chromuderts
Cahaba	Fine-loamy, siliceous, thermic Typic Hapludults
Catalpa	Fine, montmorillonitic, thermic Fluvaquentic Hapludolls
Demopolis	Loamy-skeletal, carbonatic, thermic, shallow Typic Udorthents
Falkner	Fine-silty, siliceous, thermic Aquic Paleudalfs
Freest	Fine-loamy, siliceous, thermic Aquic Paleudalfs
Griffith	Fine, montmorillonitic, thermic Vertic Haplaquolls
Jena	Coarse-loamy, siliceous, thermic Fluventic Dystrochrepts
Kipling	Fine, montmorillonitic, thermic Vertic Hapludalfs
Latonia	Coarse-loamy, siliceous, thermic Typic Hapludults
Leeper	Fine, montmorillonitic, nonacid, thermic Vertic Haplaquepts
Longview	Fine-silty, siliceous, thermic Glossaquic Hapludalfs
Lucedale	Fine-loamy, siliceous, thermic Rhodic Paleudults
Lucy	Loamy, siliceous, thermic Arenic Paleudults
Mantachie	Fine-loamy, siliceous, acid, thermic Aeric Fluvaquents
Marietta	Fine-loamy, siliceous, thermic Fluvaquentic Eutrochrepts
Mooreville	Fine-loamy, siliceous, thermic Fluvaquentic Dystrochrepts
*Ochlockonee	Coarse-loamy, siliceous, acid, thermic Typic Udifluvents
Okolona	Fine, montmorillonitic, thermic Typic Chromuderts
*Oktibbeha	Very-fine, montmorillonitic, thermic Vertic Hapludalfs
Prentiss	Coarse-loamy, siliceous, thermic Glossic Fragiudults
Quitman	Fine-loamy, siliceous, thermic Aquic Paleudults
Ruston	Fine-loamy, siliceous, thermic Typic Paleudults
Savannah	Fine-loamy, siliceous, thermic Typic Fragiudults
Sessum	Fine, montmorillonitic, thermic Vertic Ochraqualfs
Smithdale	Fine-loamy, siliceous, thermic Typic Hapludults
Stough	Coarse-loamy, siliceous, thermic Fragiaquic Paleudults
Sumter	Fine-silty, carbonatic, thermic Rendollic Eutrochrepts
Sweatman	Clayey, mixed, thermic Typic Hapludults
*Talla	Fine-loamy, siliceous, thermic Glossic Natrudalfs
Urbo	Fine, mixed, acid, thermic Aeric Haplaquepts
Vaiden	Very-fine, montmorillonitic, thermic Vertic Hapludalfs
Vimville	Fine-loamy, siliceous, thermic Typic Glossaqualfs
Wilcox	Fine, montmorillonitic, thermic Vertic Hapludalfs

*Soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series.

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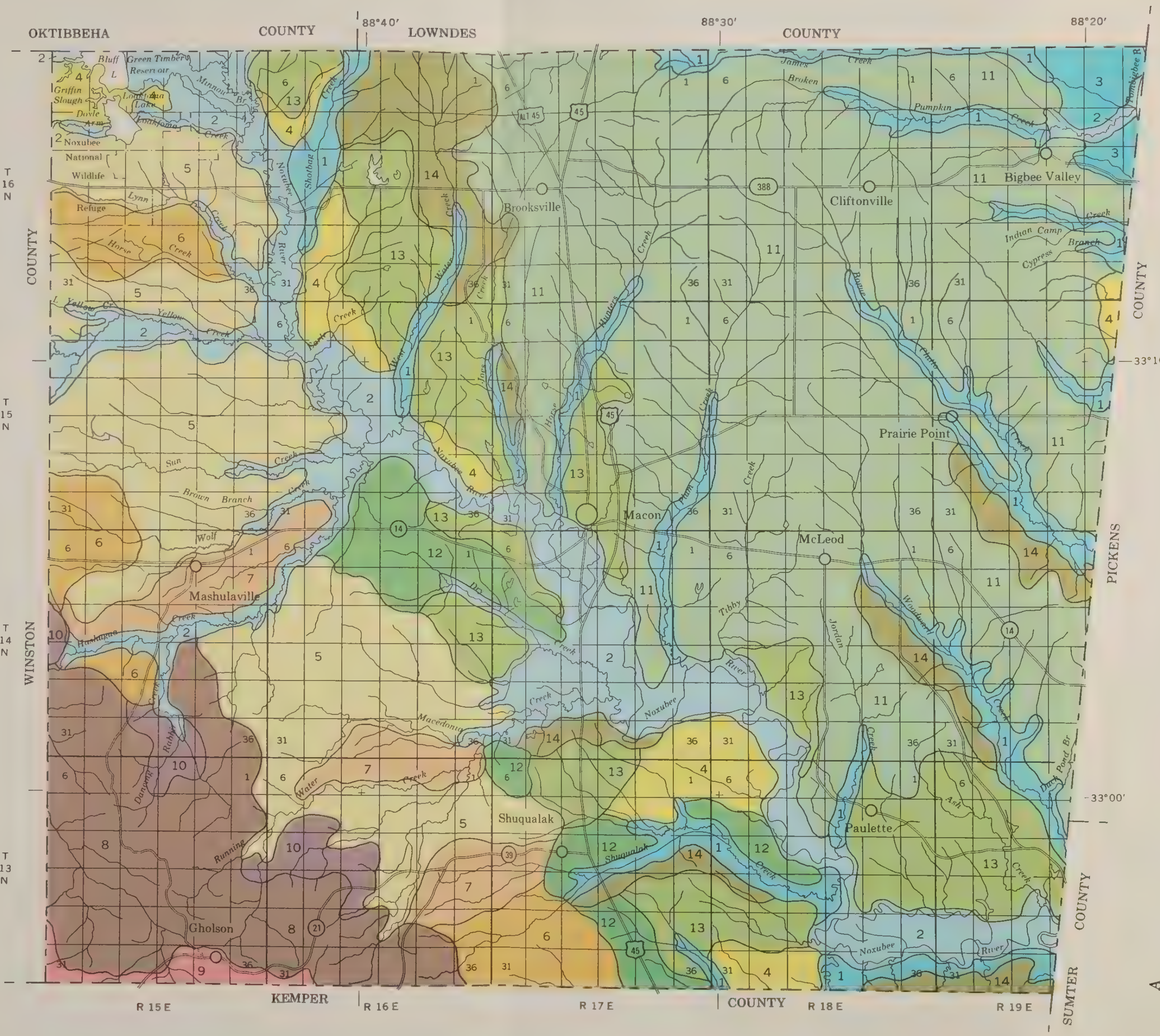


LEGEND*

DOMINANTLY NEARLY LEVEL AND GENTLY SLOPING SOILS ON FLOOD PLAINS AND STREAM TERRACES; SUBJECT TO FLOODING

1. Leeper-Catalpa: Nearly level, somewhat poorly drained and moderately well drained, clayey soils; on flood plains
2. Urbo-Mantachie-Quitman: Nearly level, somewhat poorly drained, silty and loamy soils and moderately well drained, loamy soils; on flood plains and stream terraces
3. Latonia-Cahaba: Nearly level and gently sloping, well drained, loamy soils; on stream terraces

DOMINANTLY NEARLY LEVEL TO SLOPING SOILS ON UPLANDS AND STREAM TERRACES

4. Stough-Freest-Vimville: Nearly level and gently sloping, somewhat poorly drained, moderately well drained, and poorly drained, loamy soils; on stream terraces and uplands
5. Falkner-Longview-Savannah: Nearly level to sloping, somewhat poorly drained, silty soils and moderately well drained, loamy soils; on uplands and stream terraces
6. Wilcox-Falkner: Nearly level to sloping, somewhat poorly drained, silty soils; on uplands
7. Stough-Prentiss: Nearly level and gently sloping, somewhat poorly drained and moderately well drained, loamy soils; on uplands and stream terraces

DOMINANTLY GENTLY SLOPING TO STEEP SOILS ON UPLANDS

8. Smithdale-Sweatman: Steep, well drained, loamy and silty soils; on uplands
9. Smithdale-Savannah: Gently sloping to steep, well drained and moderately well drained, loamy soils; on uplands
10. Wilcox: Moderately steep to steep, somewhat poorly drained, silty soils; on uplands

DOMINANTLY NEARLY LEVEL TO MODERATELY STEEP SOILS OVER CHALK ON UPLANDS

11. Vaiden-Brooksville-Okolona: Nearly level to sloping, somewhat poorly drained and well drained, clayey soils; on uplands
12. Kipling-Freest: Nearly level to sloping, somewhat poorly drained, silty soils and moderately well drained, loamy soils; on uplands
13. Kipling-Savannah-Oktibbeha: Gently sloping to moderately steep, somewhat poorly drained, silty soils and moderately well drained, loamy and silty soils; on uplands
14. Sumter-Kipling: Nearly level to moderately steep, well drained, clayey soils and somewhat poorly drained, silty soils; on uplands

*Texture given in the descriptive heading is that of the surface layer of the major soil or soils in each map unit.

COMPILED 1985

N

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MISSISSIPPI AGRICULTURAL AND FORESTRY EXPERIMENT STATION

GENERAL SOIL MAP

NOXUBEE COUNTY, MISSISSIPPI

SECTIONALIZED TOWNSHIP

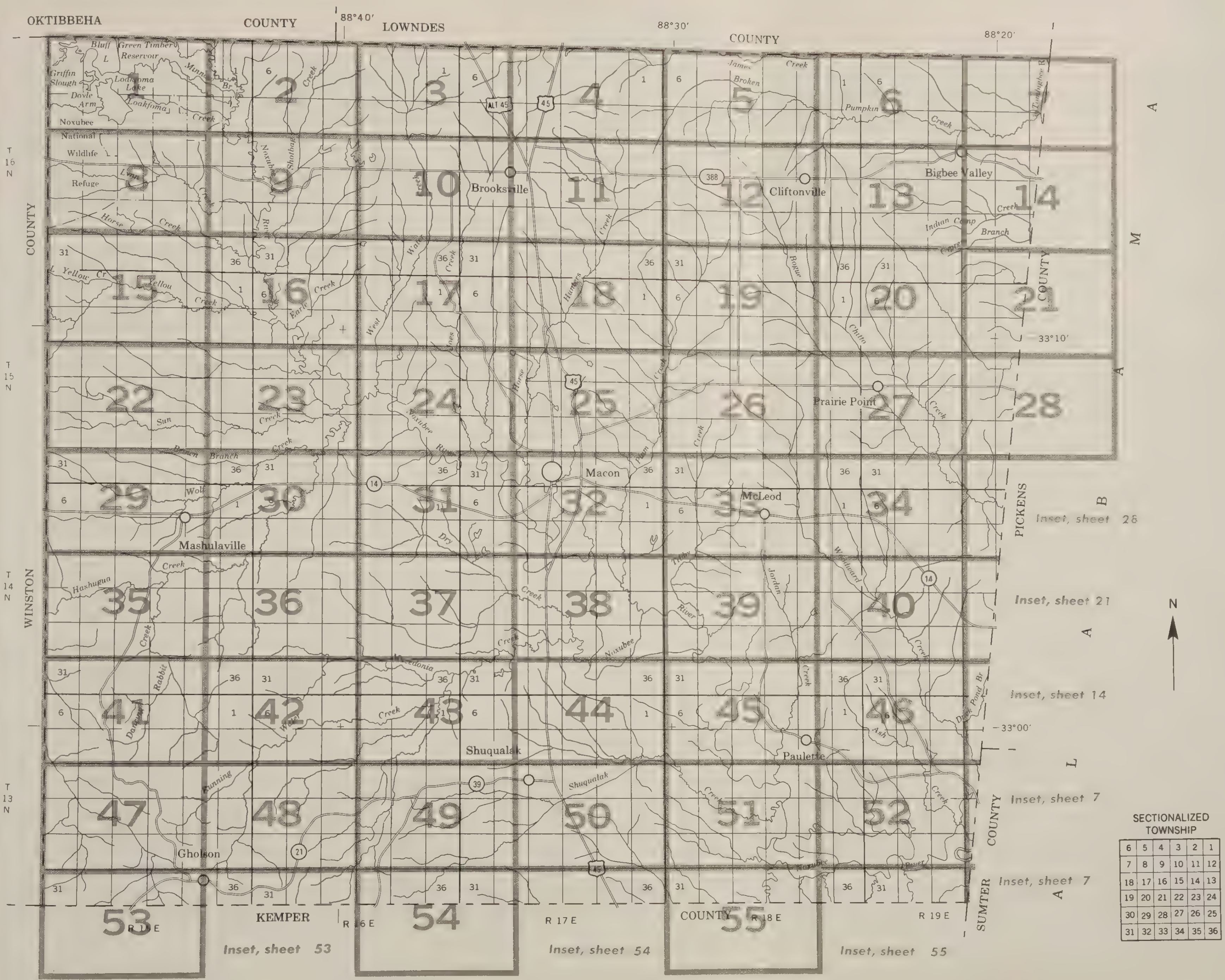
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Scale 1:190,080

1 0 1 2 3 Miles

1 0 3 6 Km

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS

NOXUBEE COUNTY, MISSISSIPPI

Scale 1:190,080

1 0 1 2 3 Miles

1 0 3 6 Km

SOIL LEGEND

Soil map publication symbols and map unit names are alphabetical. Map symbols are letters. The first letter, always a capital, is the initial letter of the soil series name or miscellaneous area. The second letter is a small letter except for broadly defined map units, in which case it is a capital letter. The third letter, where used, is always a capital letter and denotes slope or landform. A final number of 2 or 3 shows that the soil is eroded or severely eroded. Broadly defined map units, in addition to having all capital letter symbols, are further indicated by the footnote 1/. Symbols with only two letters, one upper case and one lower case, indicate nearly level to gently sloping soils subject to flooding, or are miscellaneous areas.

SYMBOL	NAME
Be	Belden silt loam, frequently flooded
BrA	Brooksville silty clay, 0 to 1 percent slopes
BrB	Brooksville silty clay, 1 to 3 percent slopes
CaA	Cahaba fine sandy loam, 0 to 2 percent slopes
Cp	Catalpa silty clay, occasionally flooded
DeC2	Demopolis-Binnsville complex, 2 to 8 percent slopes, eroded
FaA	Falkner silt loam, 0 to 2 percent slopes
FaB	Falkner silt loam, 2 to 5 percent slopes
FK	Falkner silt loam, level 1/
FrA	Freest fine sandy loam, 0 to 2 percent slopes
FrB	Freest fine sandy loam, 2 to 5 percent slopes
Gr	Griffith silty clay, occasionally flooded
Je	Jena fine sandy loam, occasionally flooded
KpA	Kipling silt loam, 0 to 2 percent slopes
KpB2	Kipling silt loam, 2 to 5 percent slopes, eroded
KpC2	Kipling silt loam, 5 to 8 percent slopes, eroded
KpD2	Kipling silt loam, 8 to 12 percent slopes, eroded
La	Latonia fine sandy loam, occasionally flooded
LC	Latonia-Cahaba association occasionally flooded 1/
Le	Leeper silty clay, occasionally flooded
LL	Leeper-Catalpa association frequently flooded 1/
LoA	Longview silt loam, 0 to 2 percent slopes
LR	Longview-Falkner association undulating 1/
LuA	Lucedale fine sandy loam, 0 to 2 percent slopes
Ma	Mantachie loam, occasionally flooded
Me	Marietta loam, occasionally flooded
Mo	Mooreville loam, occasionally flooded
Oc	Ochlockonee fine sandy loam, occasionally flooded
OkA	Okolona silty clay, 0 to 1 percent slopes
OkB	Okolona silty clay, 1 to 3 percent slopes
OtB2	Oktibbeha silty clay loam, 2 to 5 percent slopes, eroded
OtC2	Oktibbeha silty clay loam, 5 to 8 percent slopes, eroded
OuE2	Oktibbeha-Sumter complex, 8 to 15 percent slopes, eroded
OuF2	Oktibbeha-Sumter complex, 15 to 25 percent slopes, eroded
Pt	Pits - Udorthents complex
PuA	Prentiss fine sandy loam, 0 to 2 percent slopes
PuB	Prentiss fine sandy loam, 2 to 5 percent slopes
PX	Prentiss-Stough association, undulating 1/
QU	Quitman fine sandy loam, undulating, occasionally flooded 1/
RuB2	Ruston fine sandy loam, 2 to 5 percent slopes, eroded
RuC2	Ruston fine sandy loam, 5 to 8 percent slopes, eroded
SaA	Savannah fine sandy loam, 0 to 2 percent slopes
SaB	Savannah fine sandy loam, 2 to 5 percent slopes
SaC2	Savannah fine sandy loam, 5 to 8 percent slopes, eroded
SaD2	Savannah fine sandy loam, 8 to 12 percent slopes, eroded
SeA	Sessum silty clay, 0 to 2 percent slopes
SmD2	Smithdale sandy loam, 8 to 15 percent slopes, eroded
SmF3	Smithdale sandy loam, 15 to 30 percent slopes, severely eroded
SP	Smithdale-Lucy association, hilly 1/
StA	Stough fine sandy loam, 0 to 2 percent slopes
SuB2	Sumter silty clay, 2 to 5 percent slopes, eroded
SuD2	Sumter silty clay, 5 to 12 percent slopes, eroded
SuE2	Sumter silty clay, 12 to 17 percent slopes, eroded
SvE3	Sumter-Demopolis-Rock outcrop, chalk complex, 5 to 20 percent slopes, severely eroded
SW	Sweatman-Smithdale association, hilly 1/
TaA	Talla loam, 0 to 2 percent slopes
Ub	Urbo silty clay loam, occasionally flooded
UM	Urbo-Mantachie association, occasionally flooded 1/
VaA	Vaiden silty clay, 0 to 2 percent slopes
VaB2	Vaiden silty clay, 2 to 5 percent slopes, eroded
VaC2	Vaiden silty clay, 5 to 8 percent slopes, eroded
VmA	Vimville loam, 0 to 2 percent slopes
WcB2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded
WcC2	Wilcox silty clay loam, 5 to 8 percent slopes, eroded
WcD2	Wilcox silty clay loam, 8 to 15 percent slopes, eroded
WcF	Wilcox silty clay loam, 15 to 35 percent slopes
WD	Wilcox silty clay loam, rolling 1/
WF	Wilcox-Falkner association, undulating 1/

1/ Broadly defined map units. Fewer soil examinations were made in these mapping units, and delineations and included areas are generally larger. The mapping units were designed primarily for woodland management.

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label) — Hedley Airstrip

Small airport, airfield, park, oilfield, cemetery, or flood pool — FLOOD POOL LINE

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate — 21
- Federal — 173
- State — 28
- County, farm or ranch — 1283

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small — water

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) — Indian Mound
- Located object (label) — Tower
- Tank (label) — Gas
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) — CANAL
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial — water, w
- Intermittent — int, i

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS — OkA KpB2

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

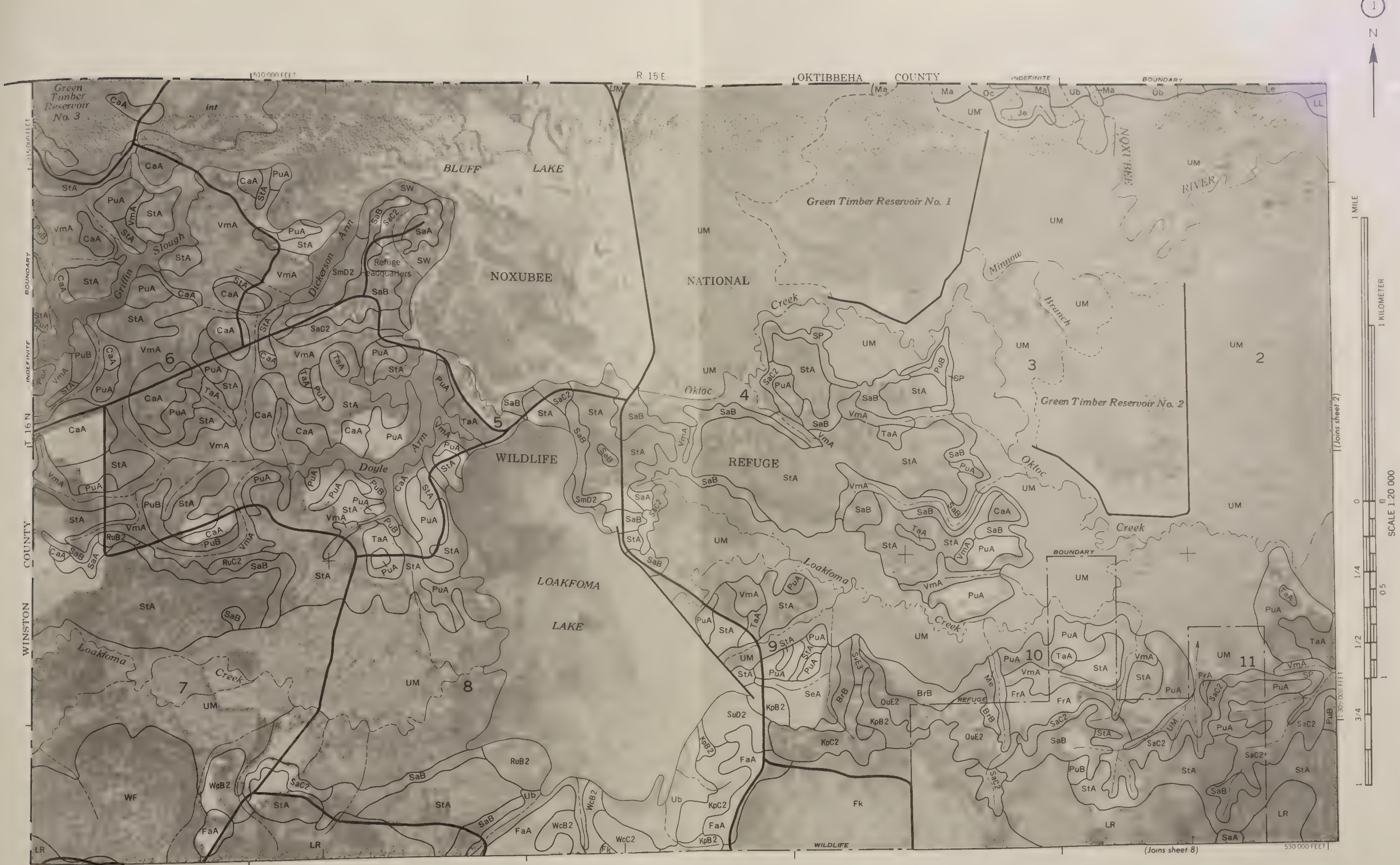
GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown) — S

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot


1
N
OKTIBBEHA COUNTY
INDEFINITE BOUNDARY
R 15 E
510 000 FEET
530 000 FEET
T 16 N
WINSTON COUNTY
INDEFINITE BOUNDARY
Green Timber Reservoir No. 3
BLUFF LAKE
NOXUBEE NATIONAL WILDLIFE REFUGE
Green Timber Reservoir No. 1
Green Timber Reservoir No. 2
NOXUBEE RIVER
Minnow Branch
Oktoc Creek
Loakfoma Creek
Doyle Arm
Dickerson Arm
Griffin Slough
LOAKFOMA LAKE
Refuge Headquarters
REFUGE BOUNDARY
WILDLIFE
(Joins sheet 2)
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1 MILE
1 KILOMETER
SCALE 1:20 000
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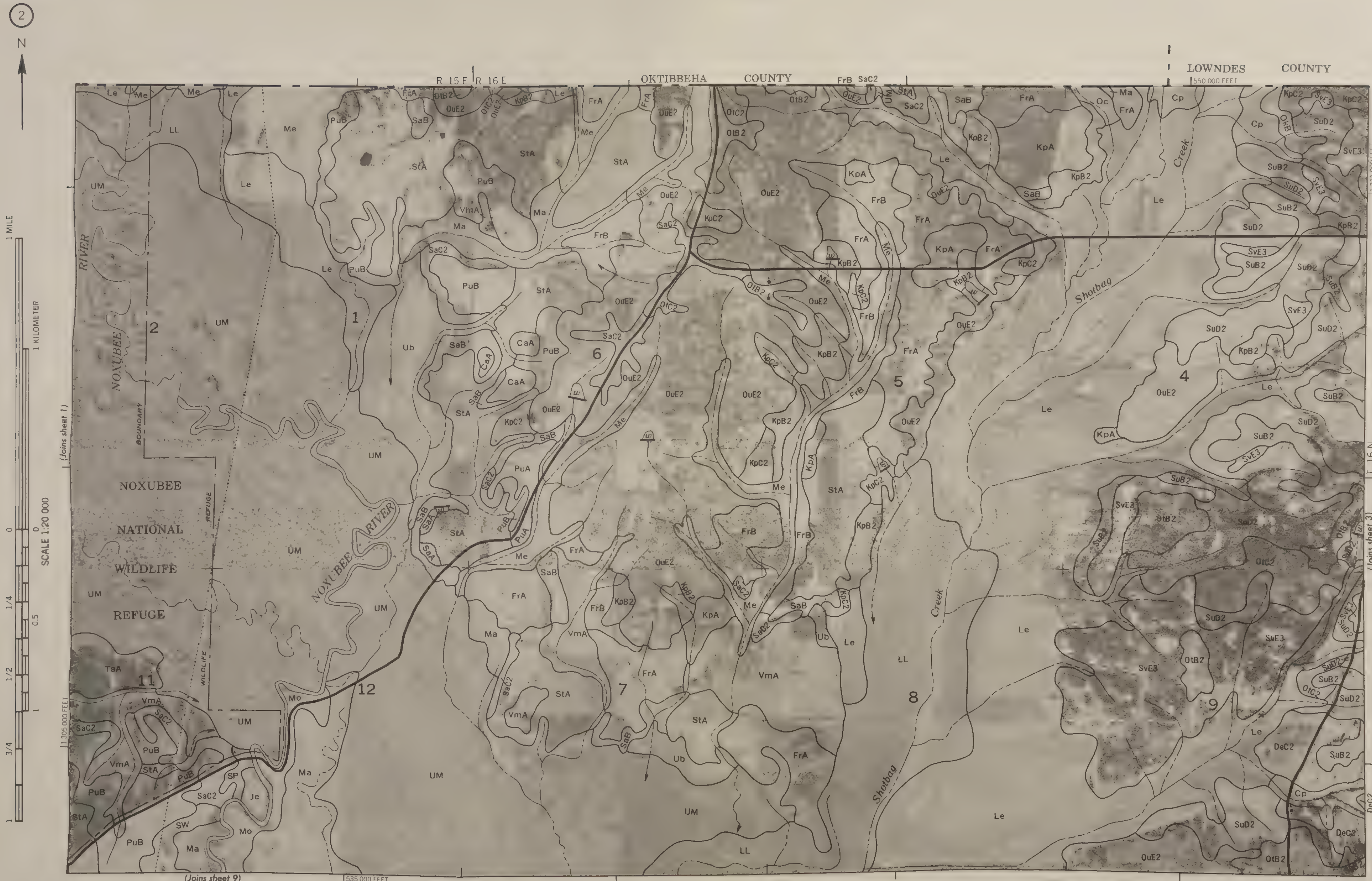
1/4
1/2
3/4
1
0.5



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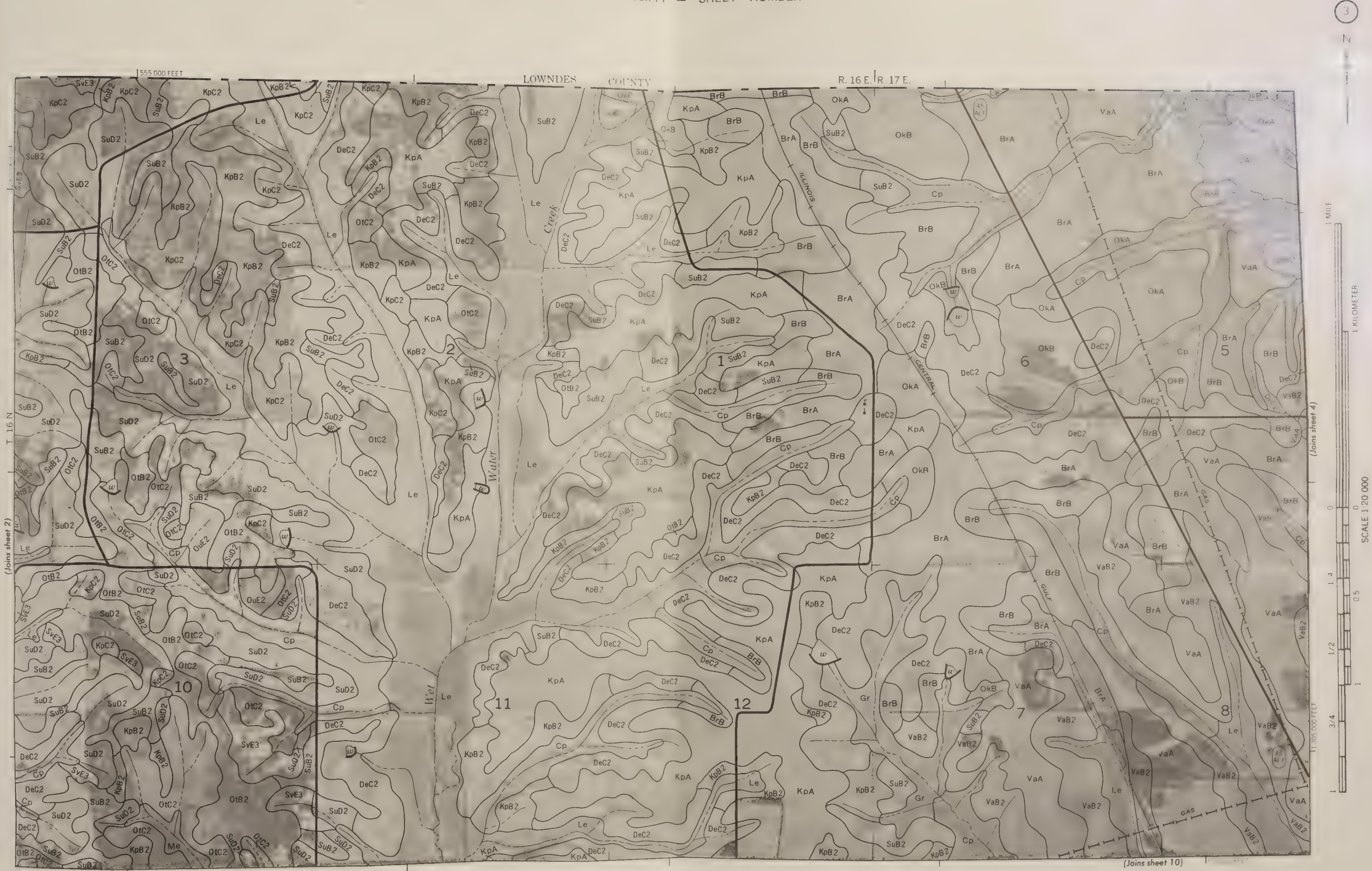

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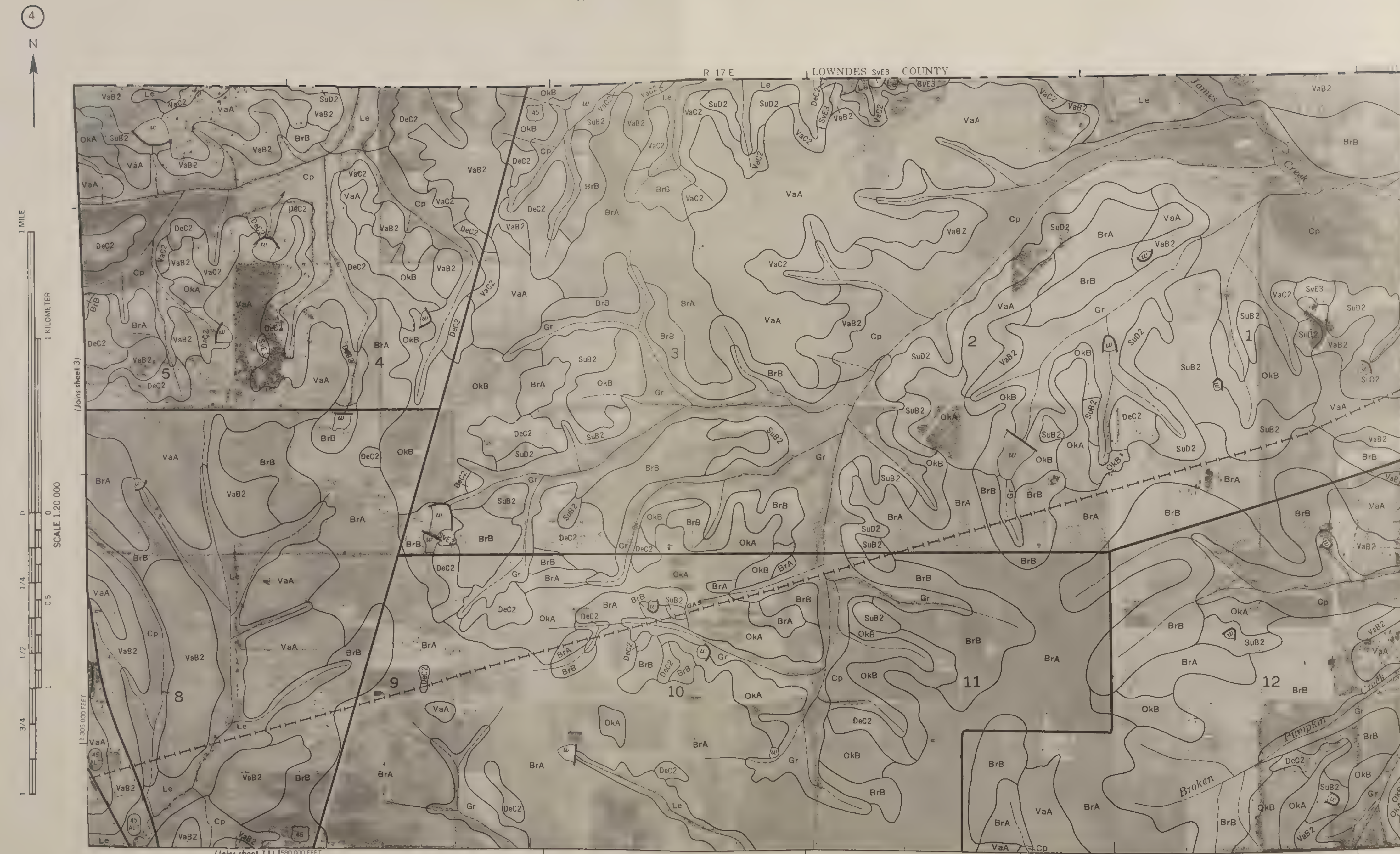

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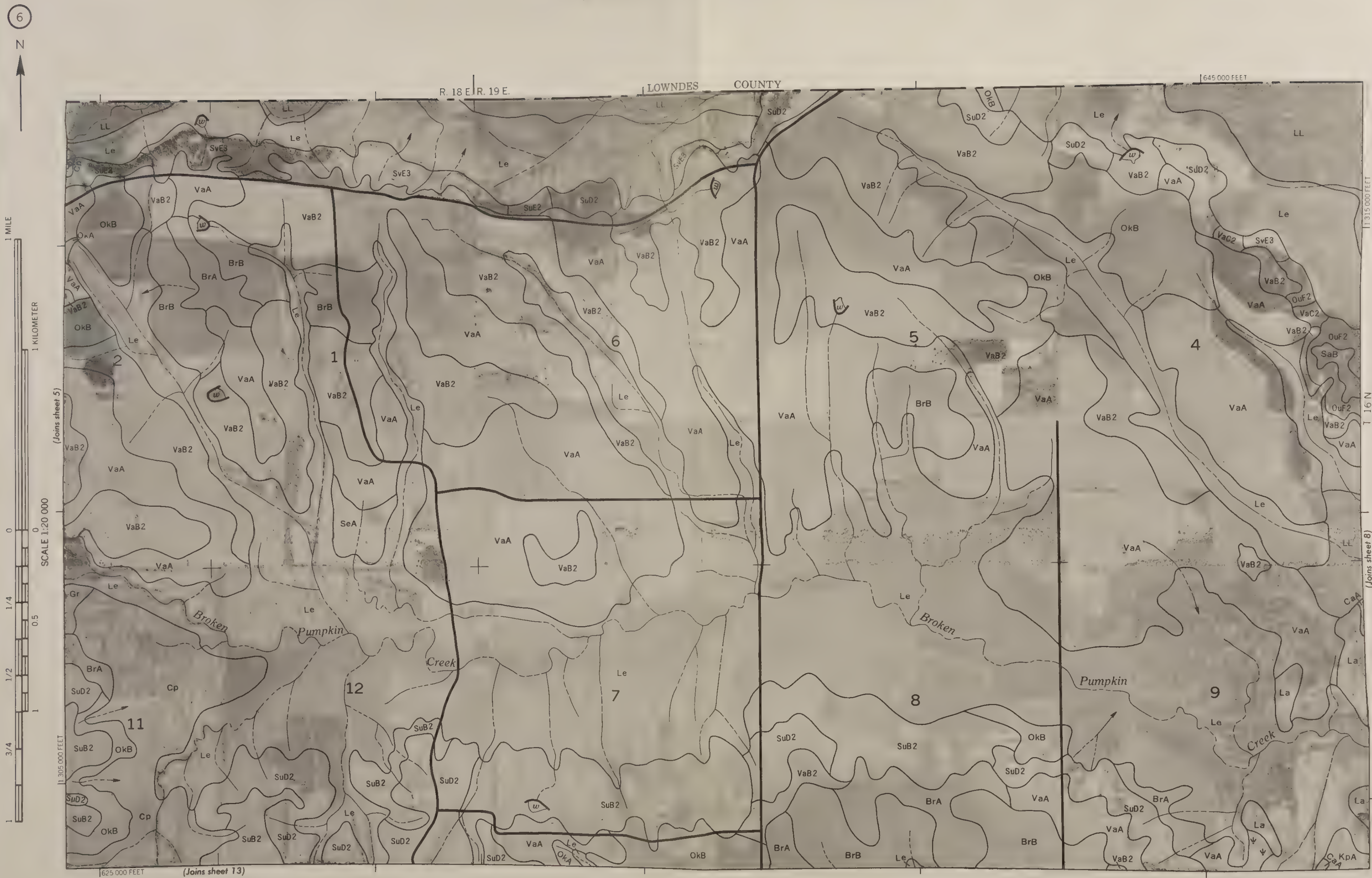

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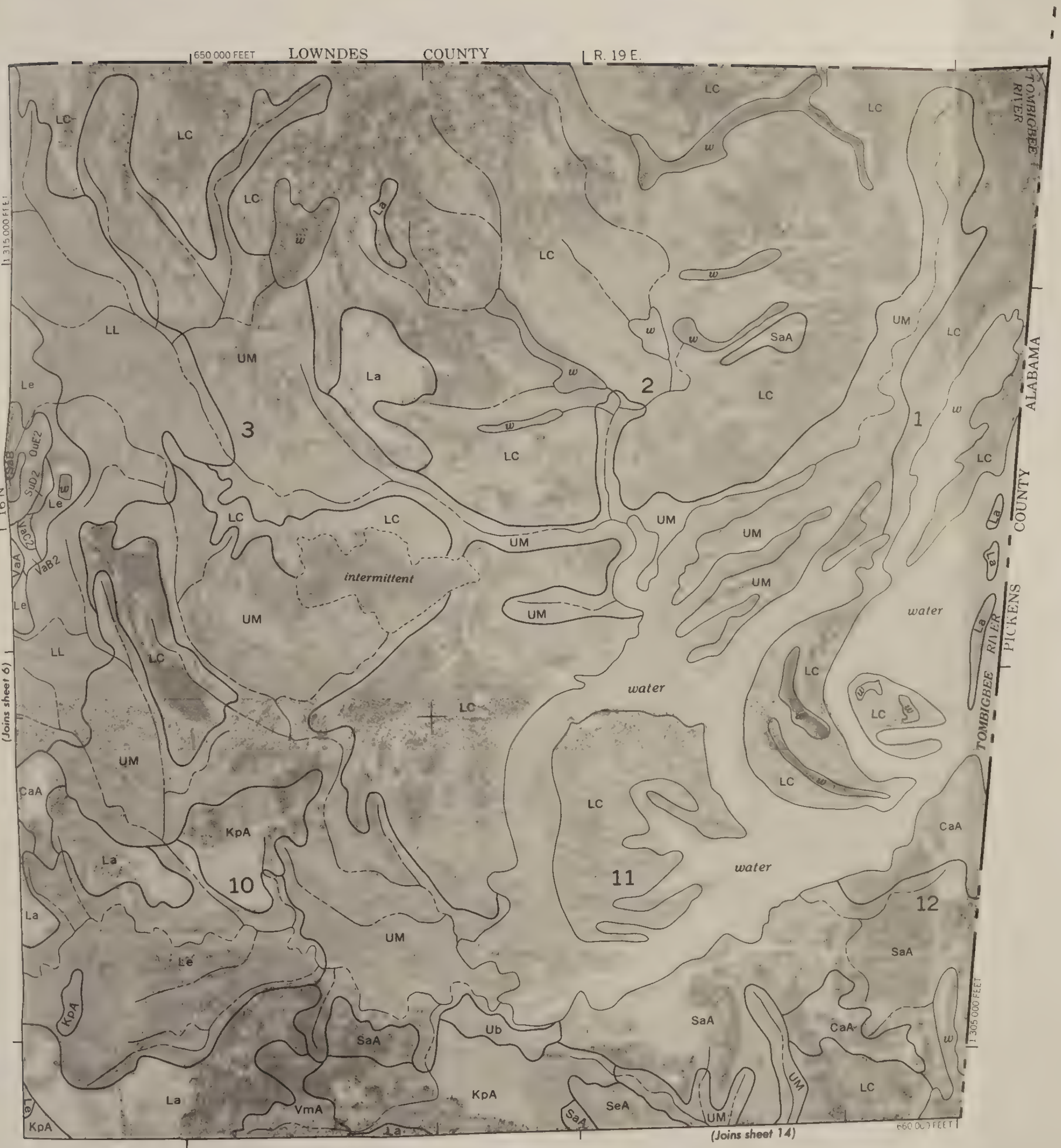

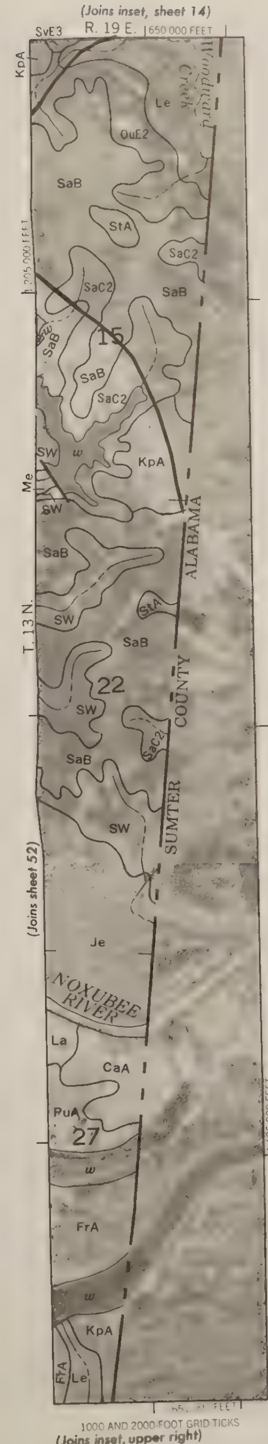

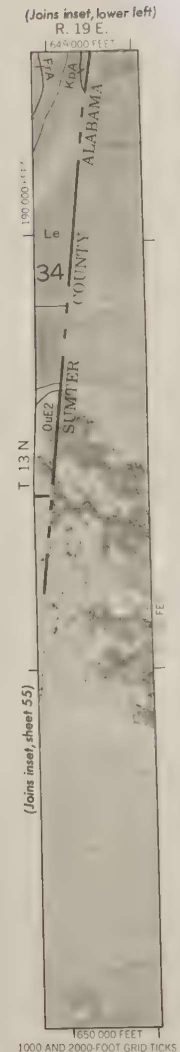

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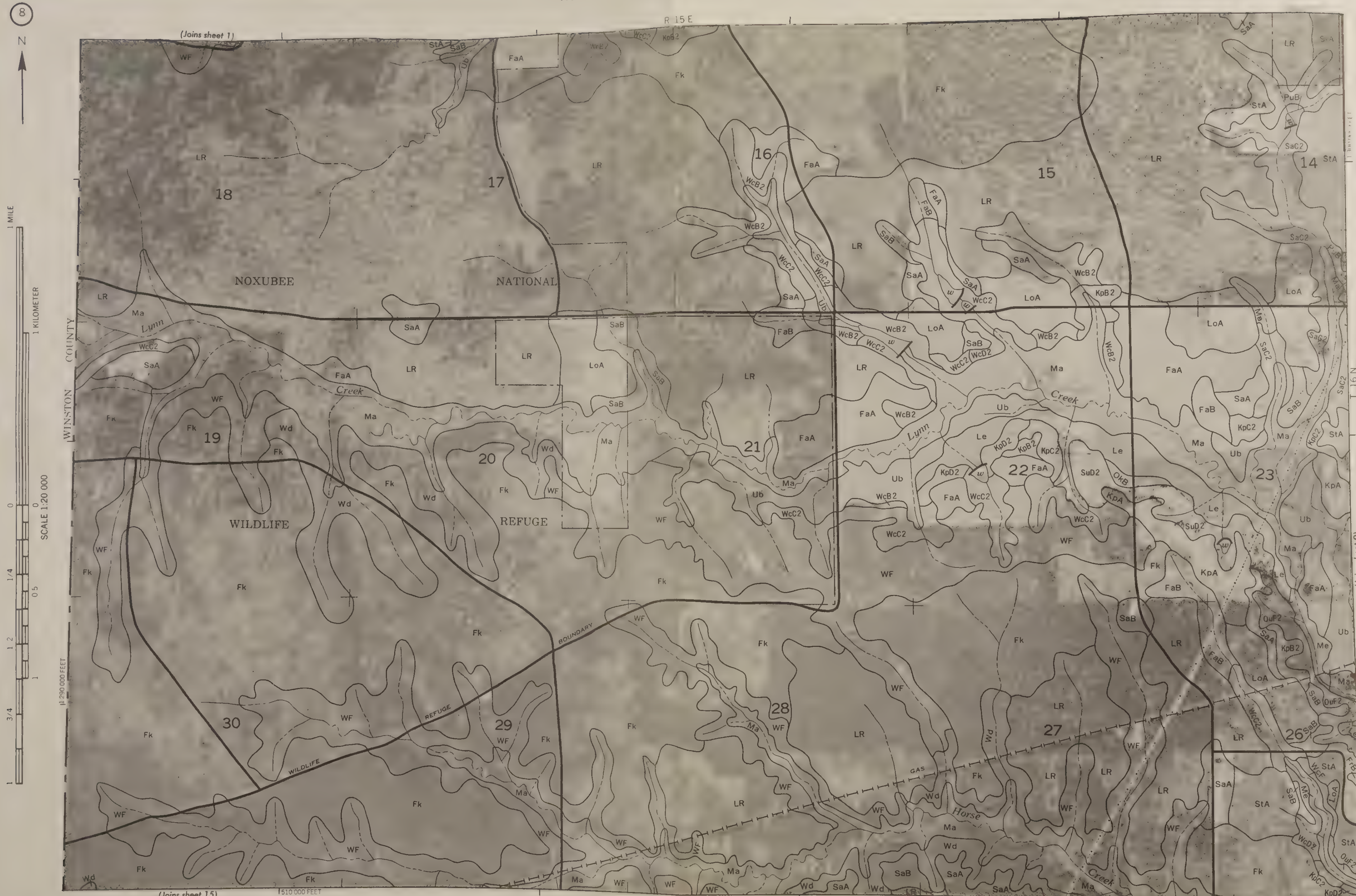

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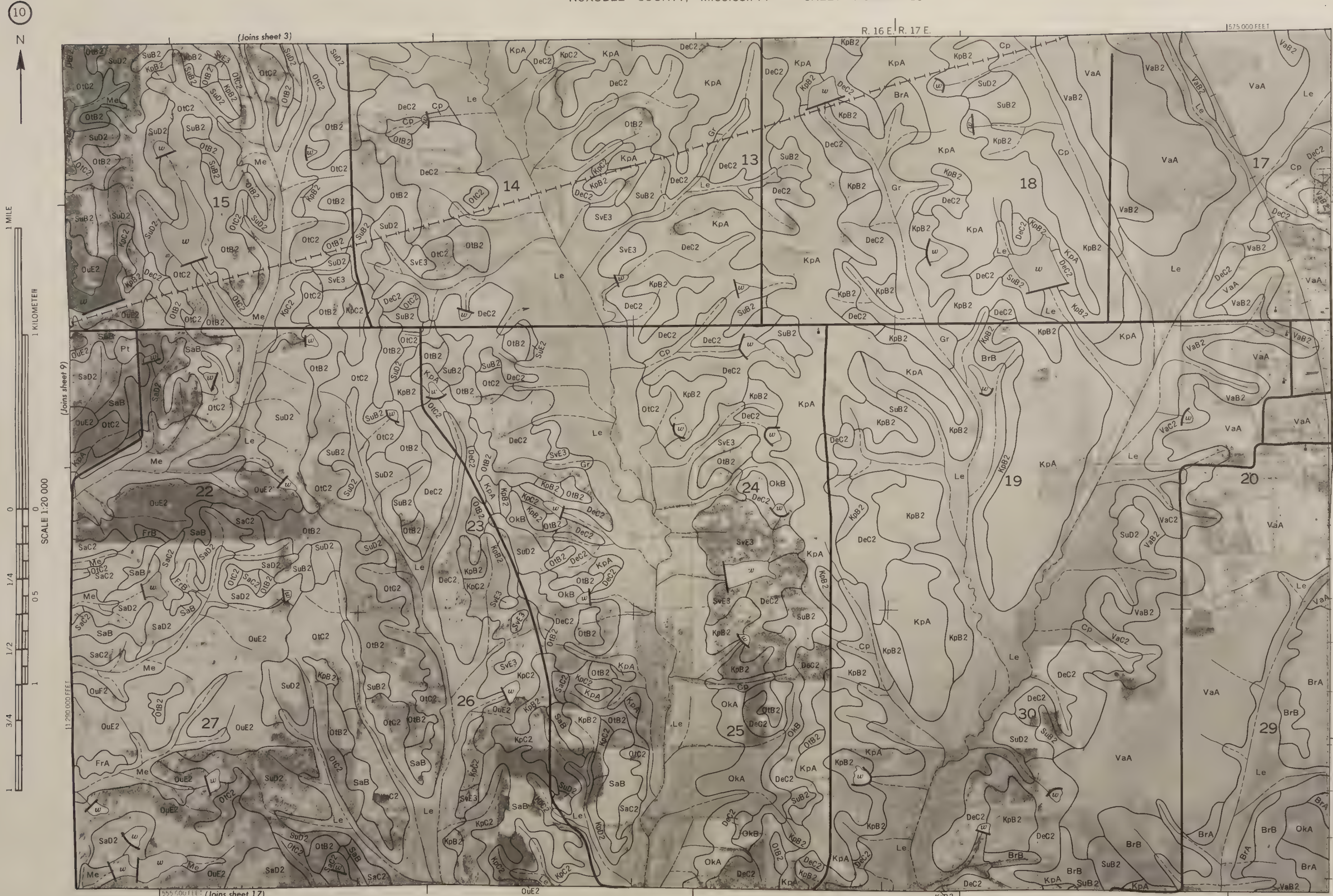

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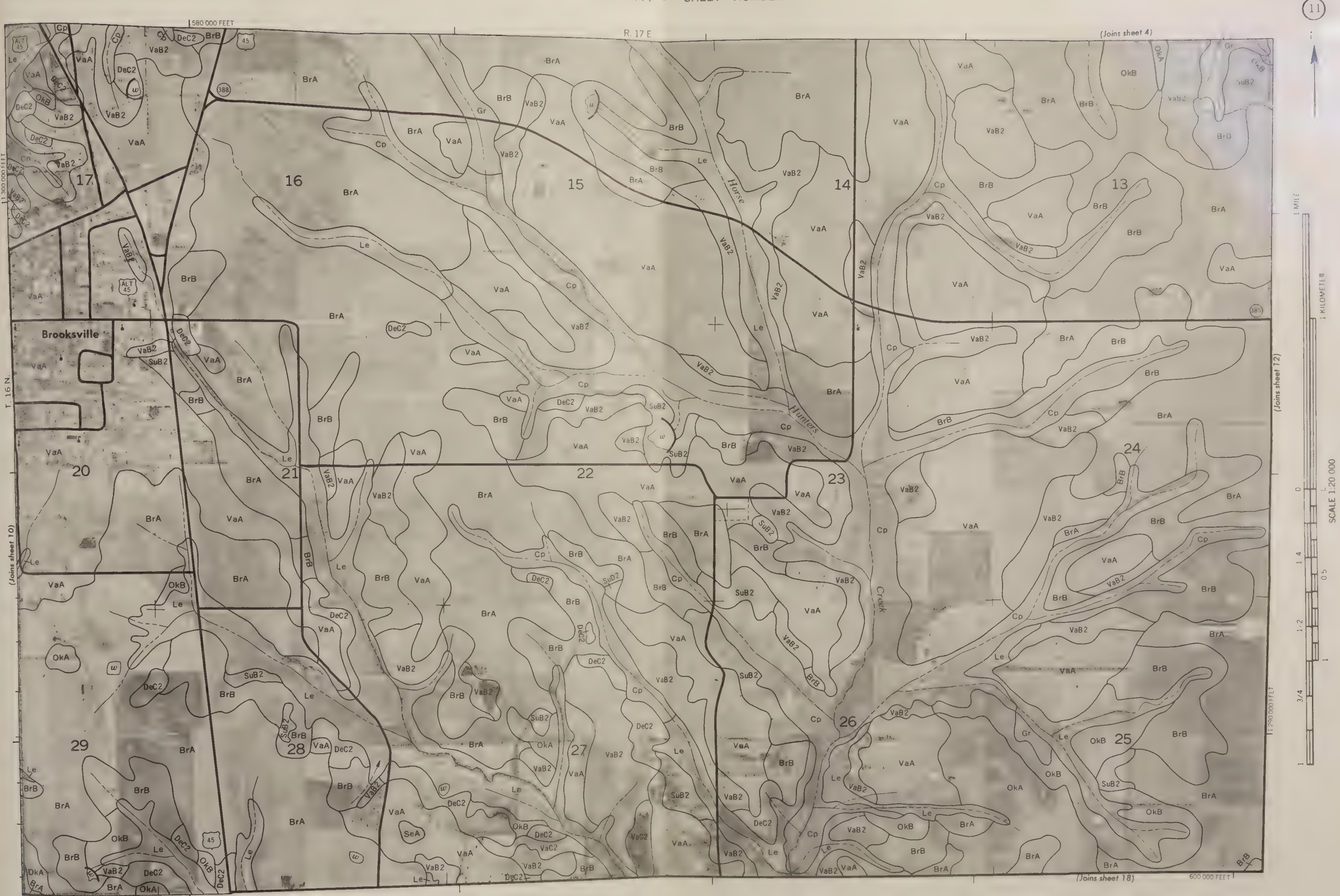
NOXUBEE COUNTY, MISSISSIPPI — SHEET NUMBER 11



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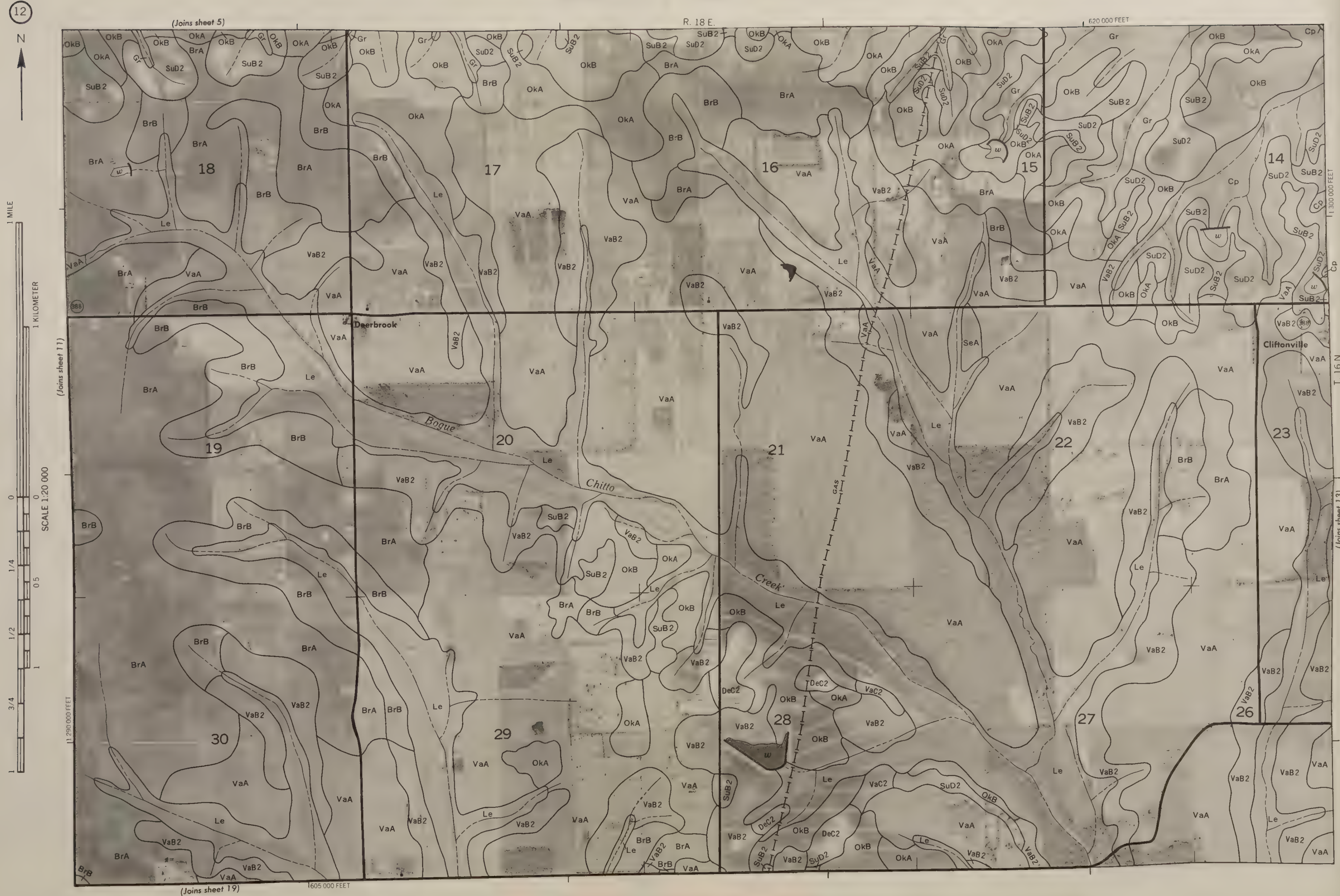
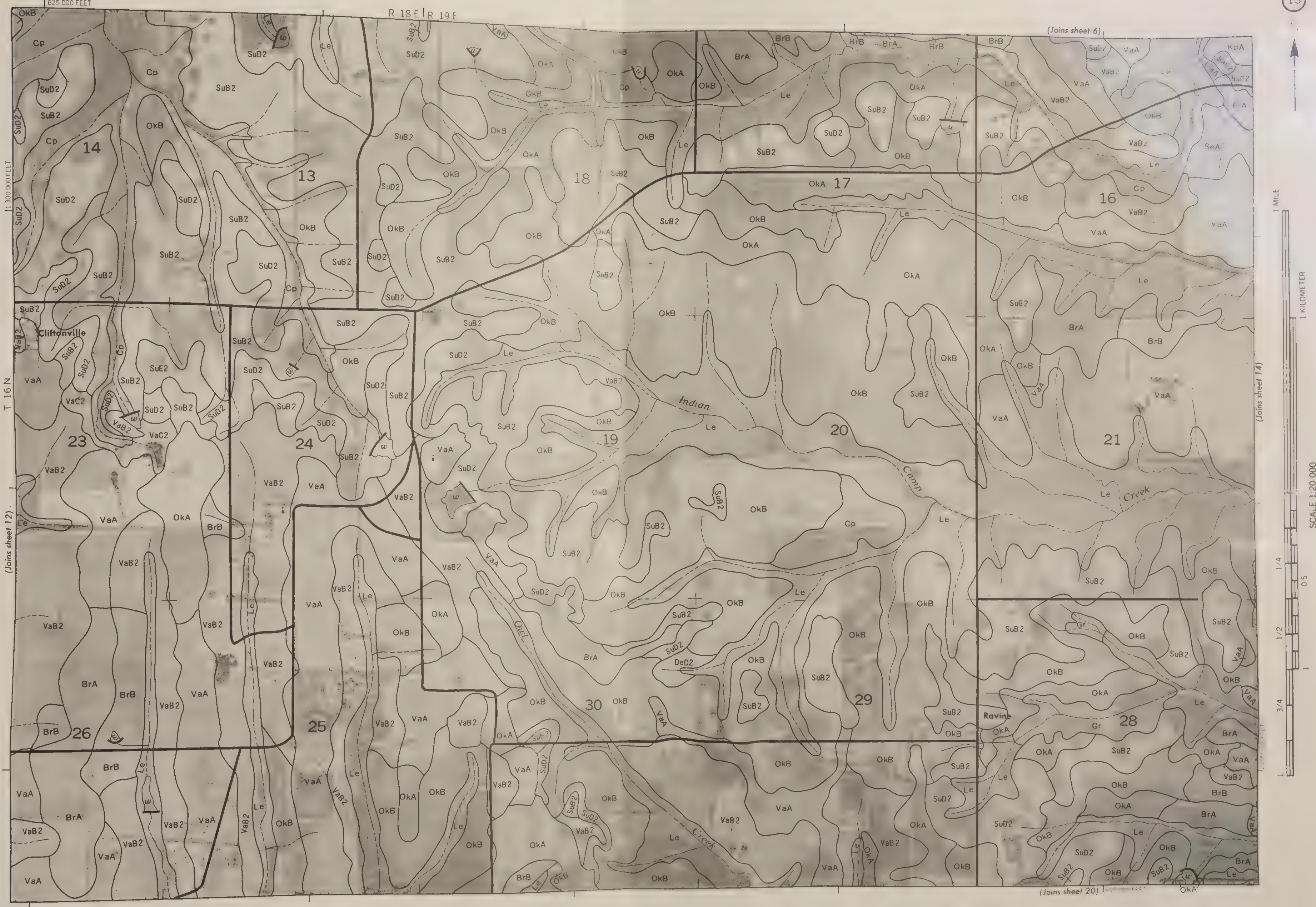

12
N
(Joins sheet 5)
(Joins sheet 11)
(Joins sheet 13)
(Joins sheet 19)
R. 18 E.
T. 16 N.
620 000 FEET
605 000 FEET
1 300 000 FEET
1 290 000 FEET
1 MILE
1 KILOMETER
SCALE 1:20 000
Deerbrook
Cliftonville
Bogue
Chitto
Creek
GAS
14
15
16
17
18
19
20
21
22
23
26
27
28
29
30
BrA
BrB
Cp
DeC2
Gr
Le
OkA
OkB
SeA
SuB2
SuD2
VaA
VaB2
VaC2
w



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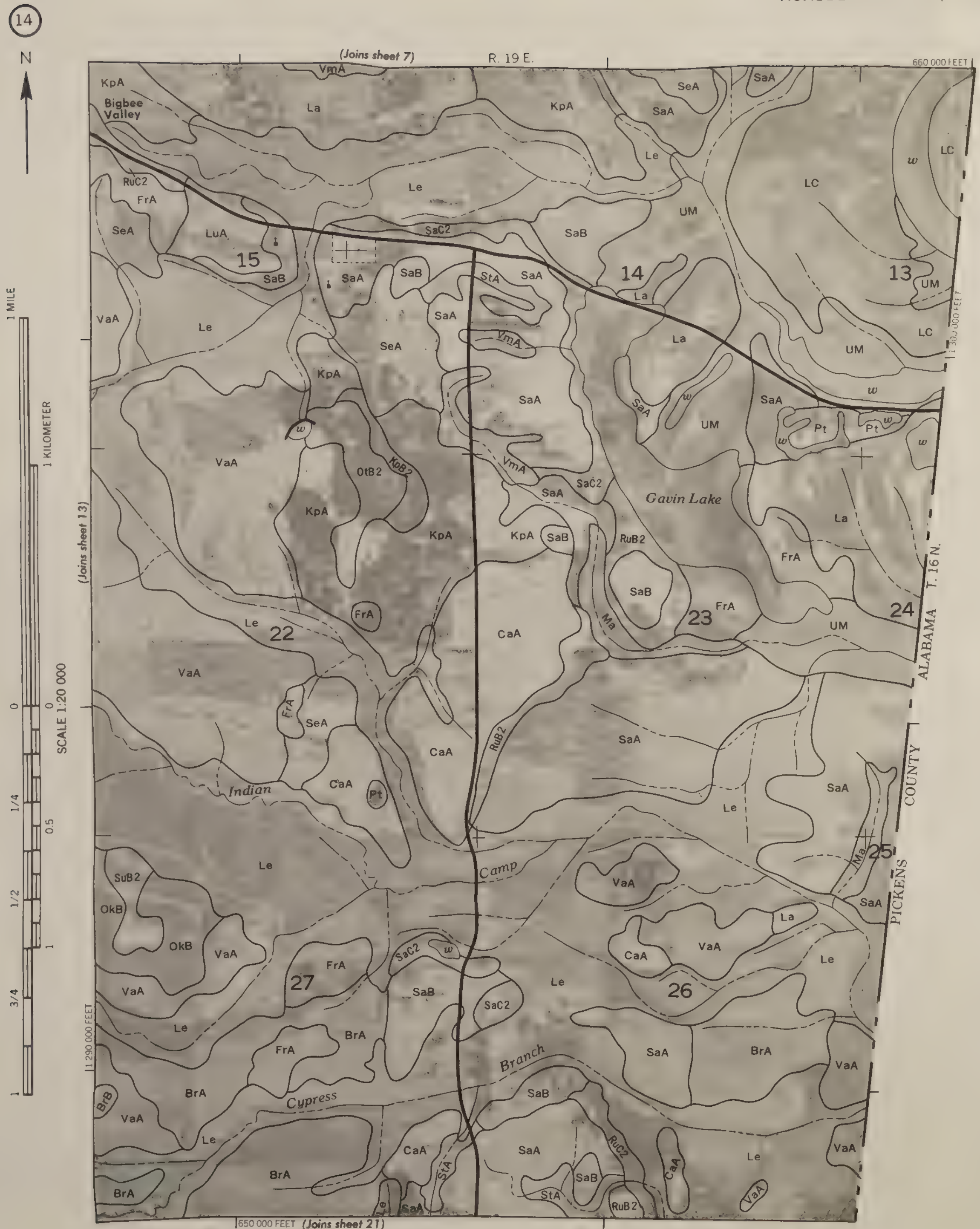

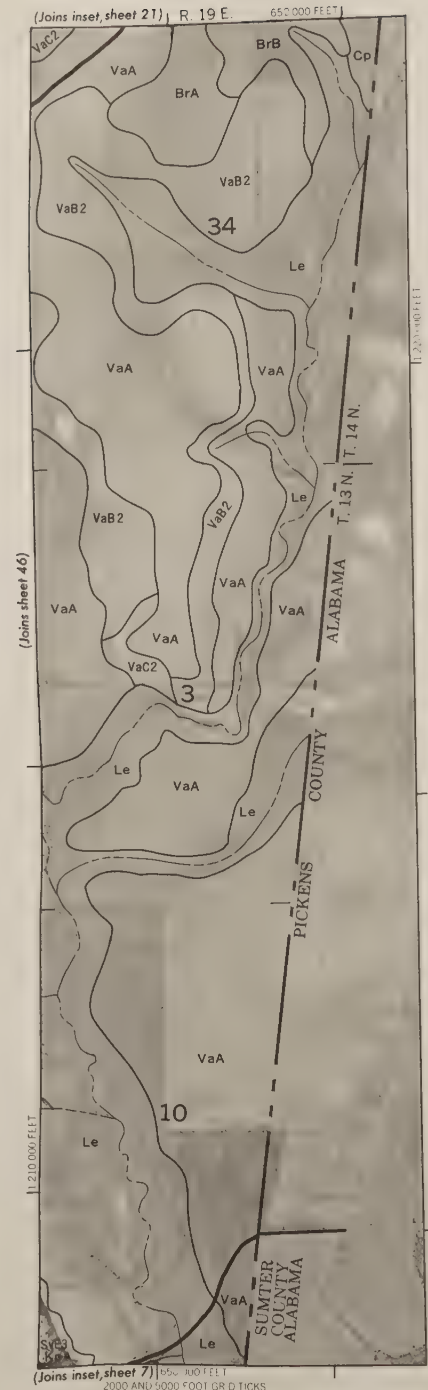

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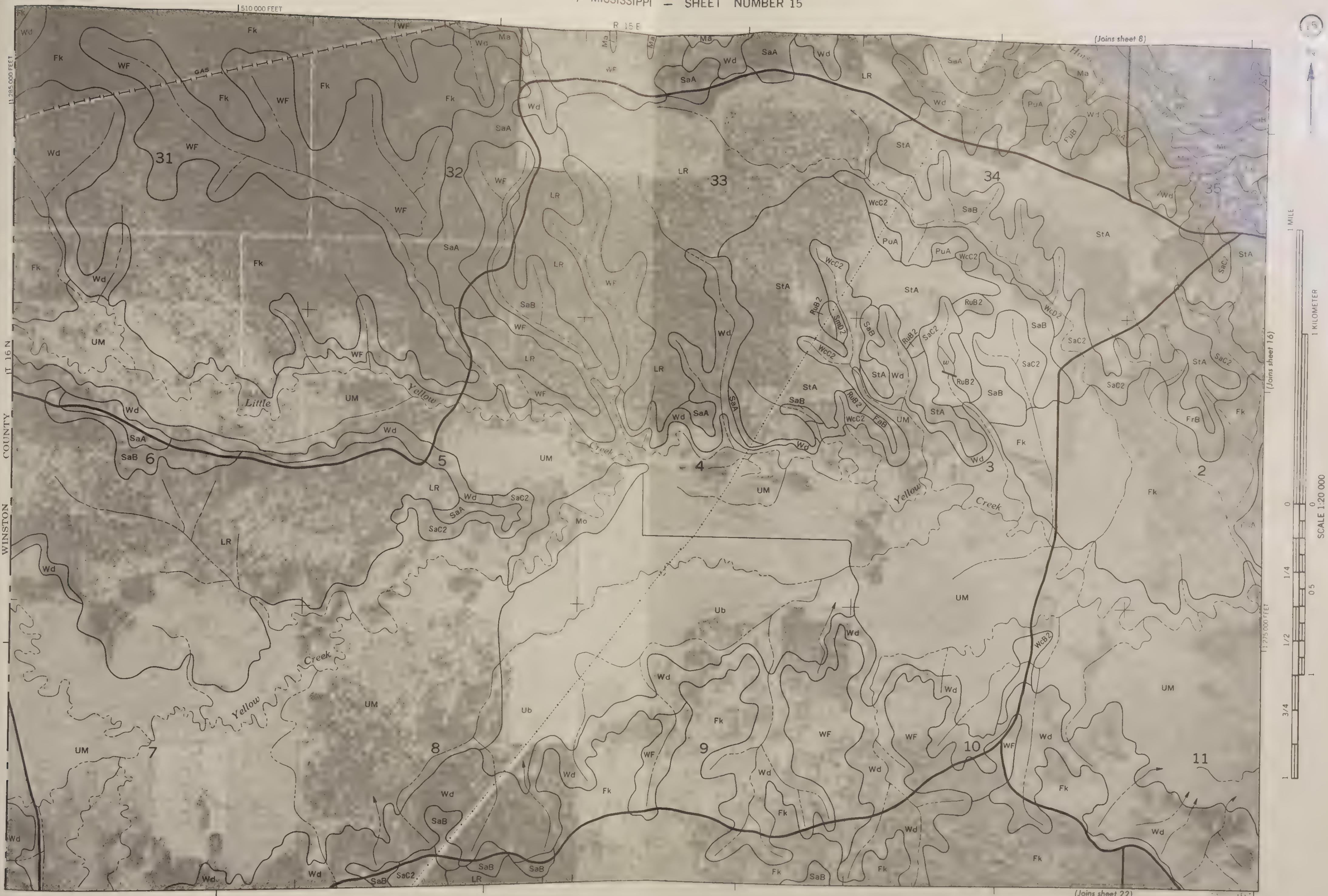
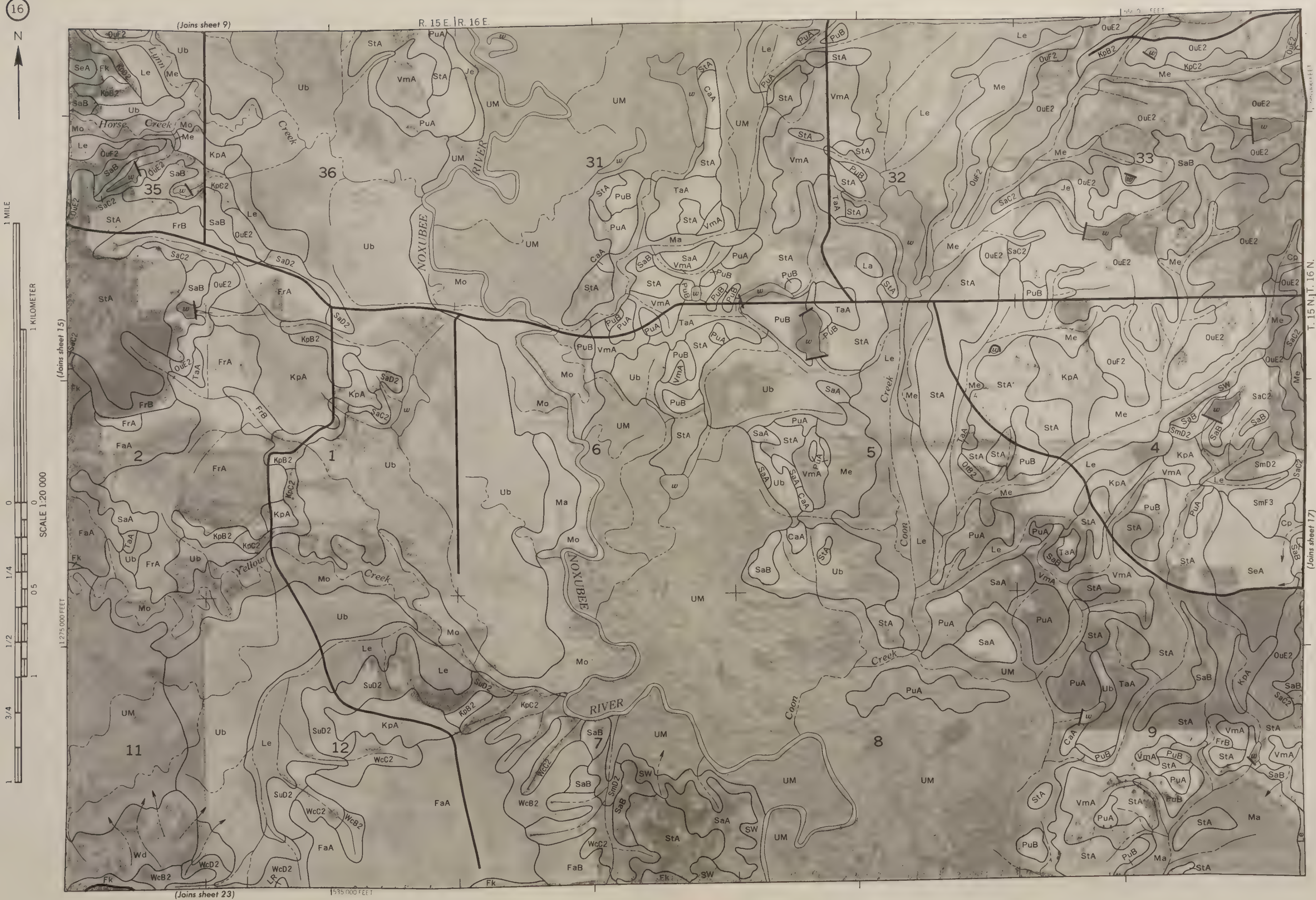
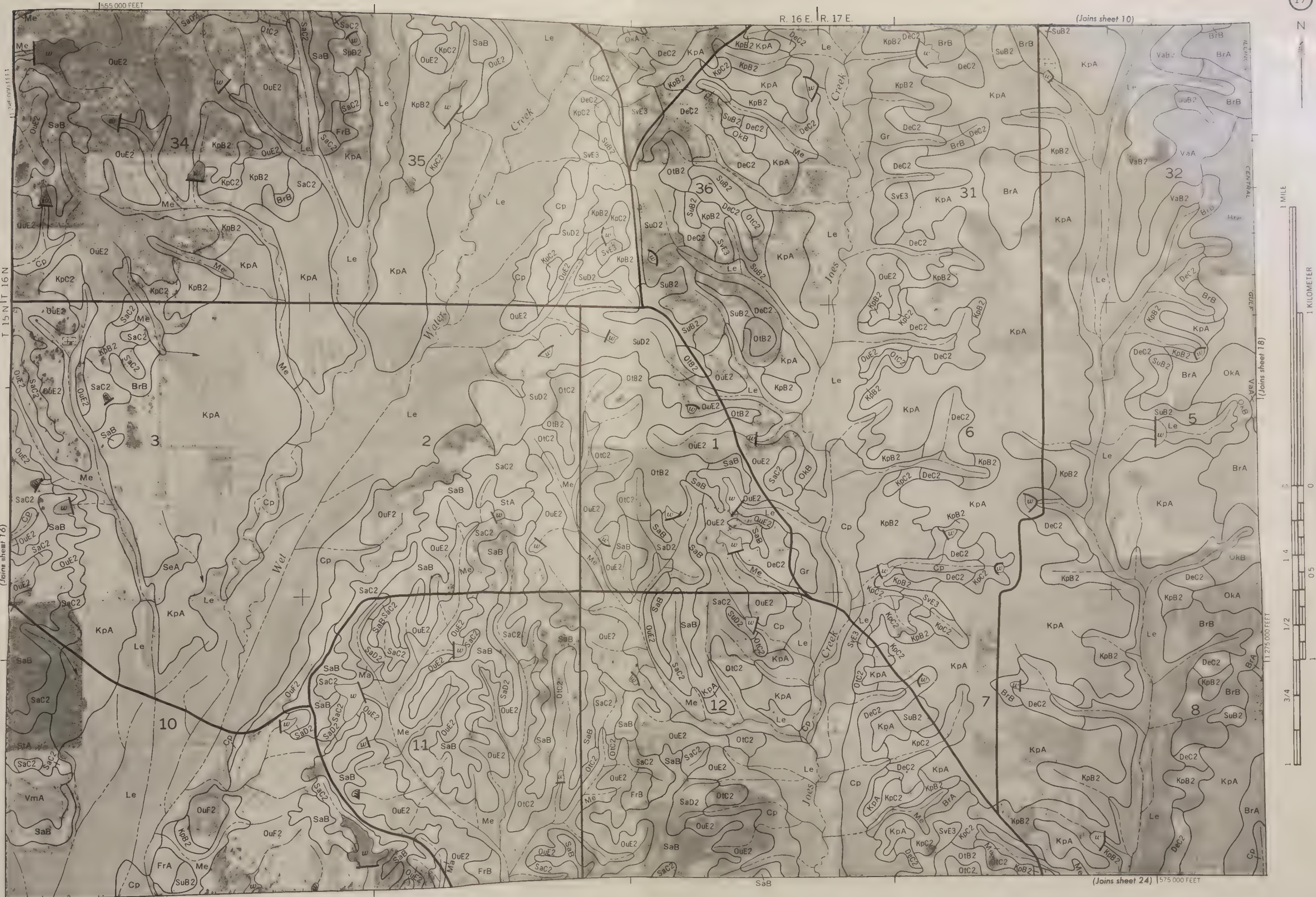


This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating ... grid ticks and land division corners, if


N
1 MILE
1 KILOMETER
SCALE 1:20 000
0
1/4
1/2
3/4
1
0.5
(Joins sheet 9)
(Joins sheet 15)
(Joins sheet 17)
(Joins sheet 23)
R. 15 E.
R. 16 E.
T. 15 N.
T. 16 N.
1 275 000 FEET
535 000 FEET
NOXUBEE
RIVER
Horse Creek
Lynn Creek
Yellow Creek
Coon Creek
35
36
31
32
33
2
1
6
5
4
11
12
7
8
9



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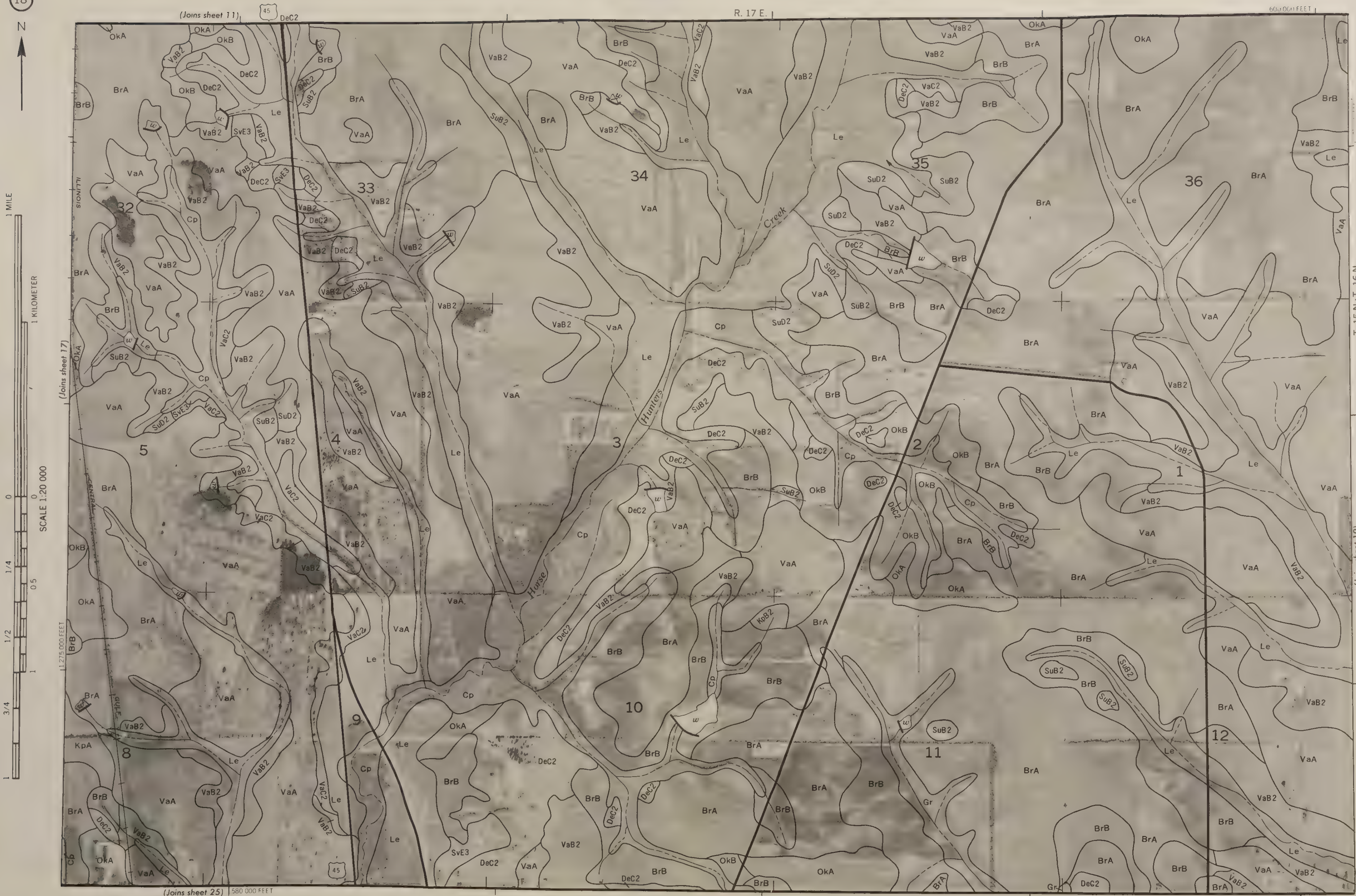
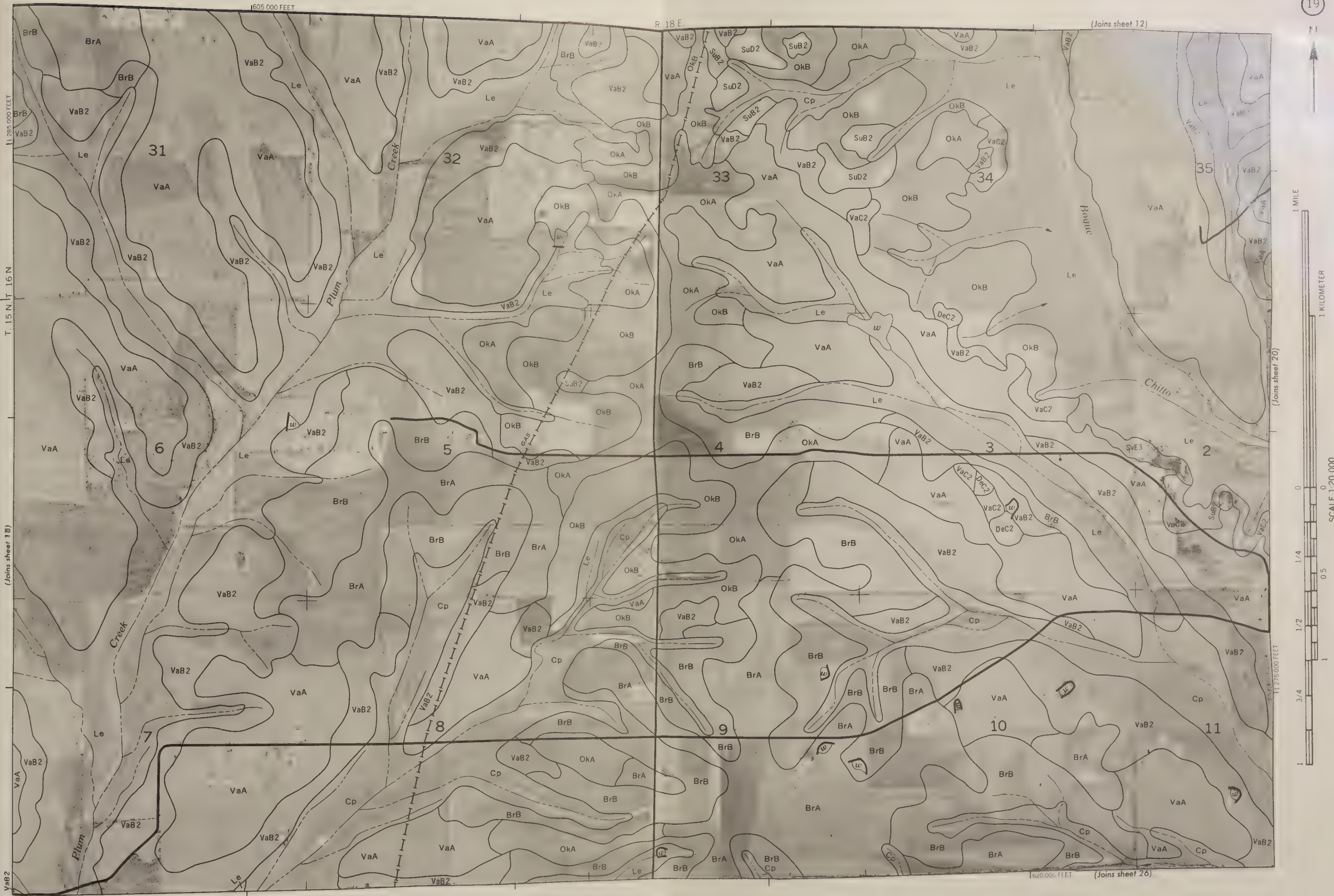
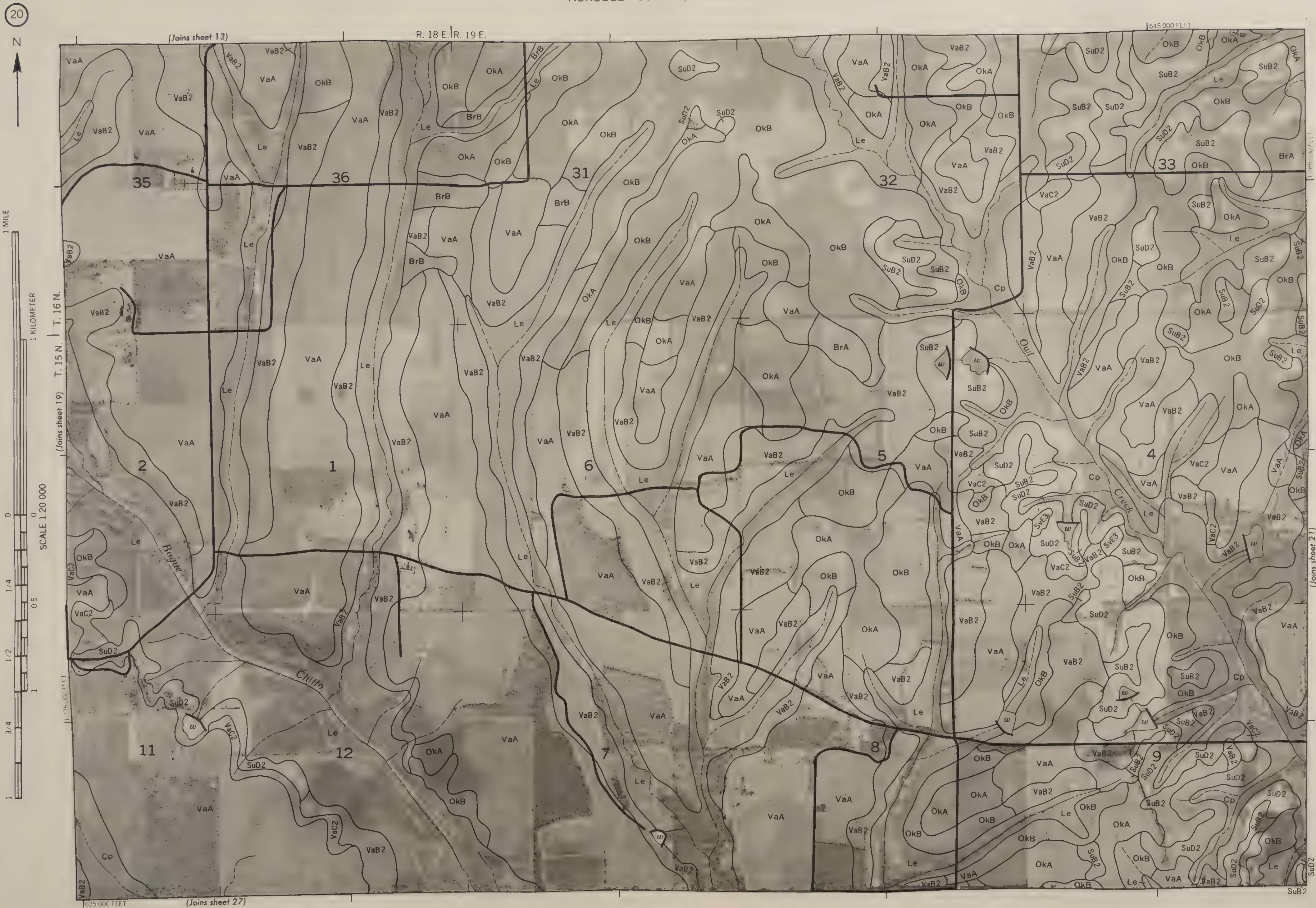
NOXUBEE COUNTY, MISSISSIPPI — SHEET NUMBER 18



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating

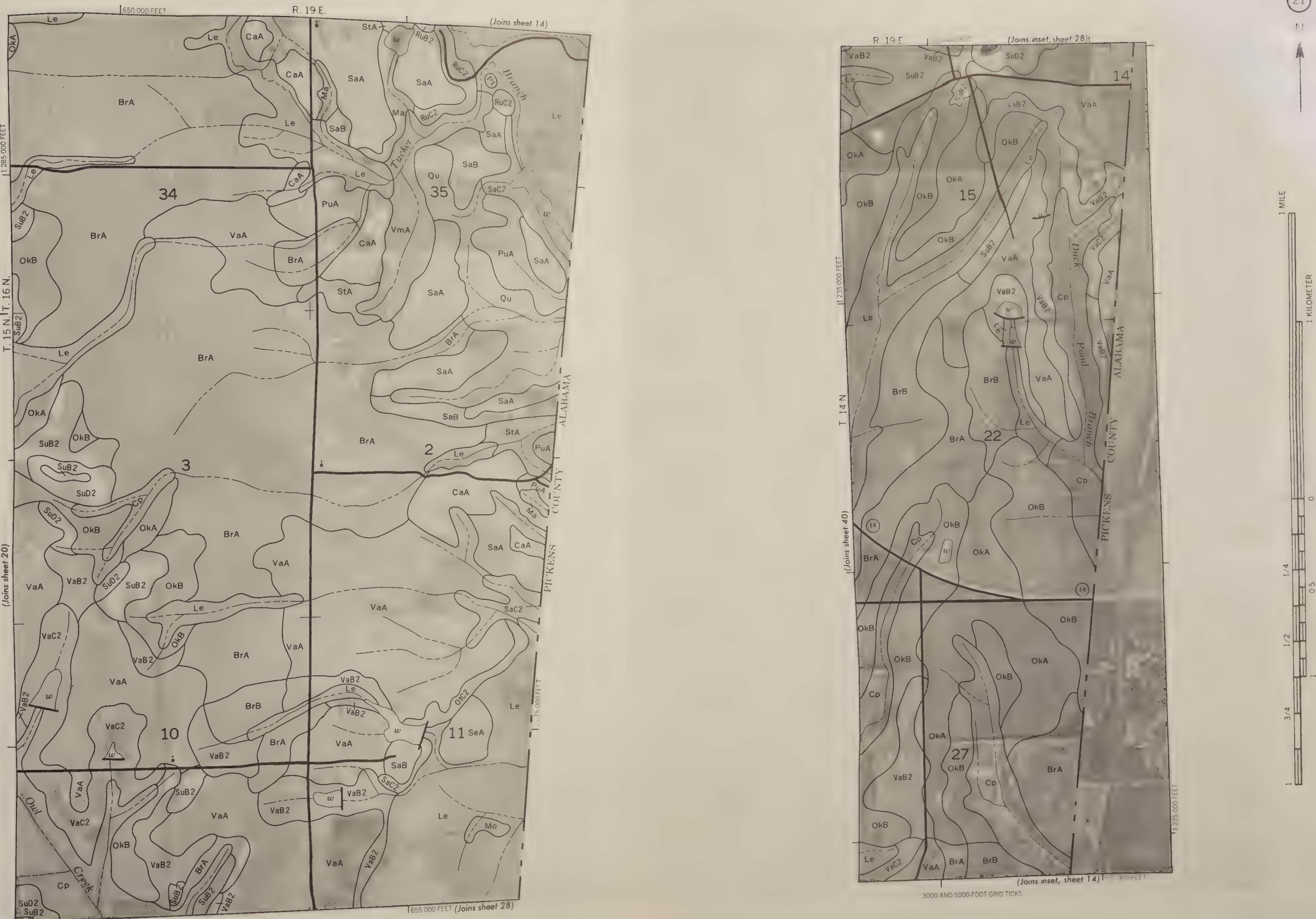


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating



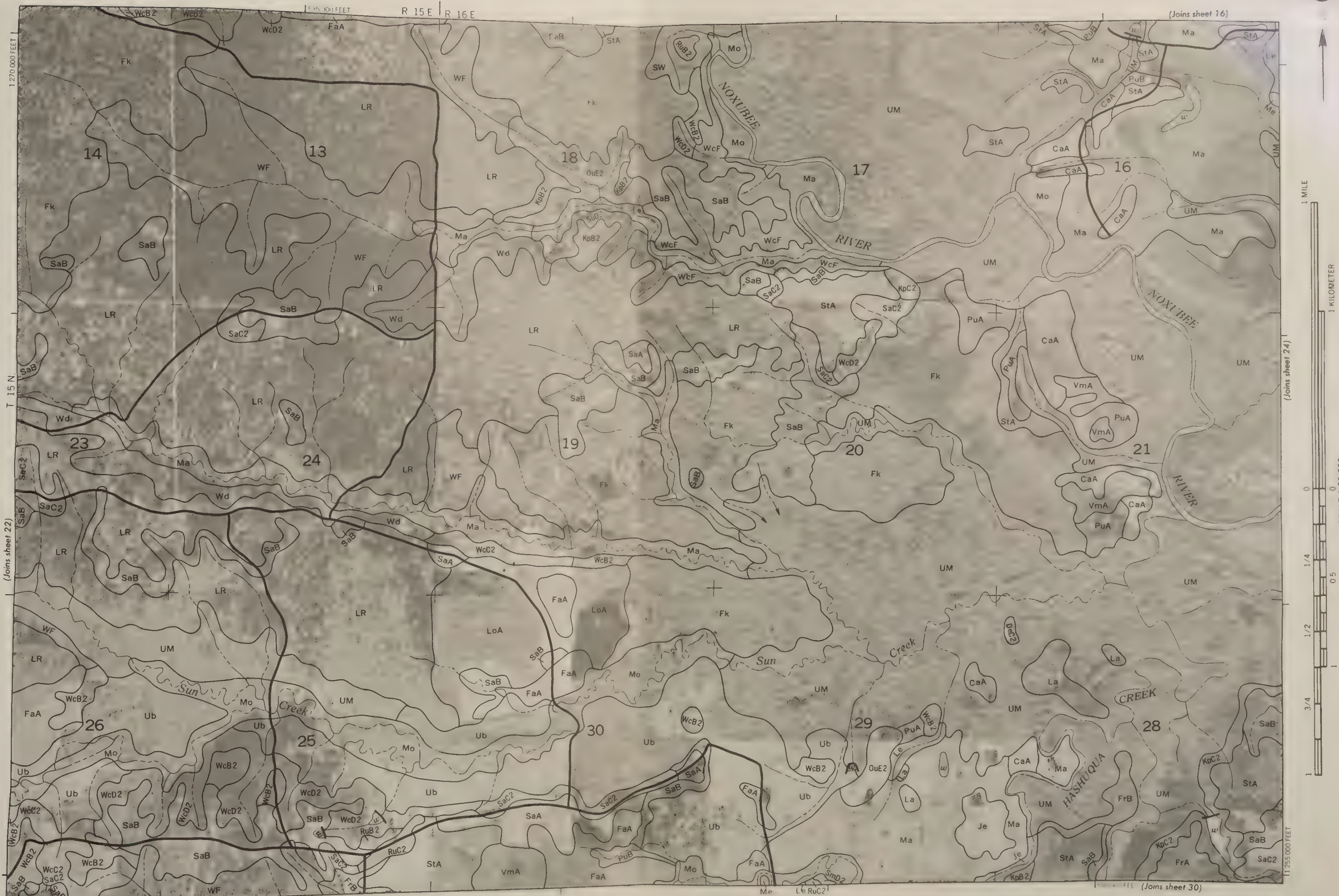
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating

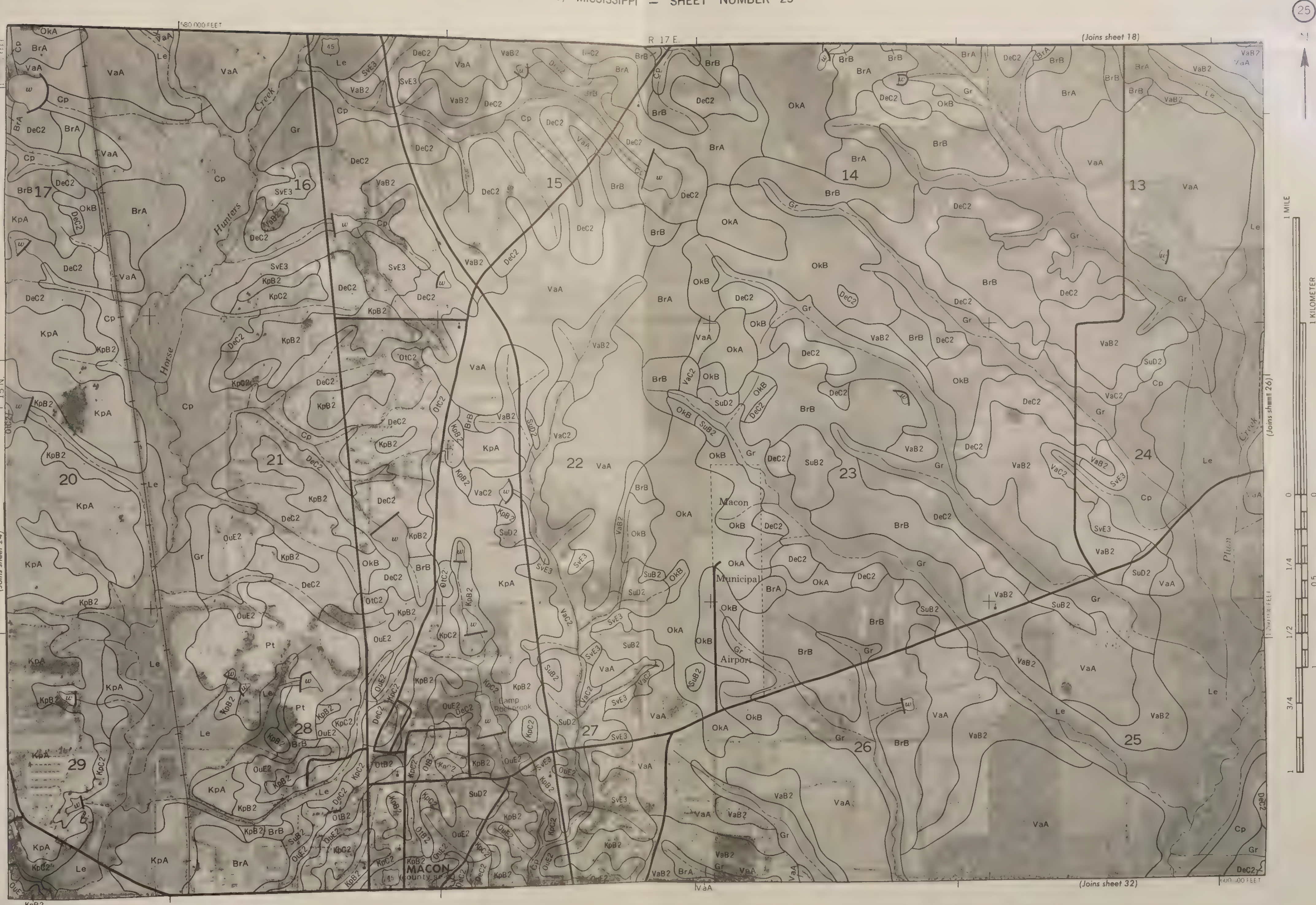


NOXUBEE COUNTY, MISSISSIPPI — SHEET NUMBER 22

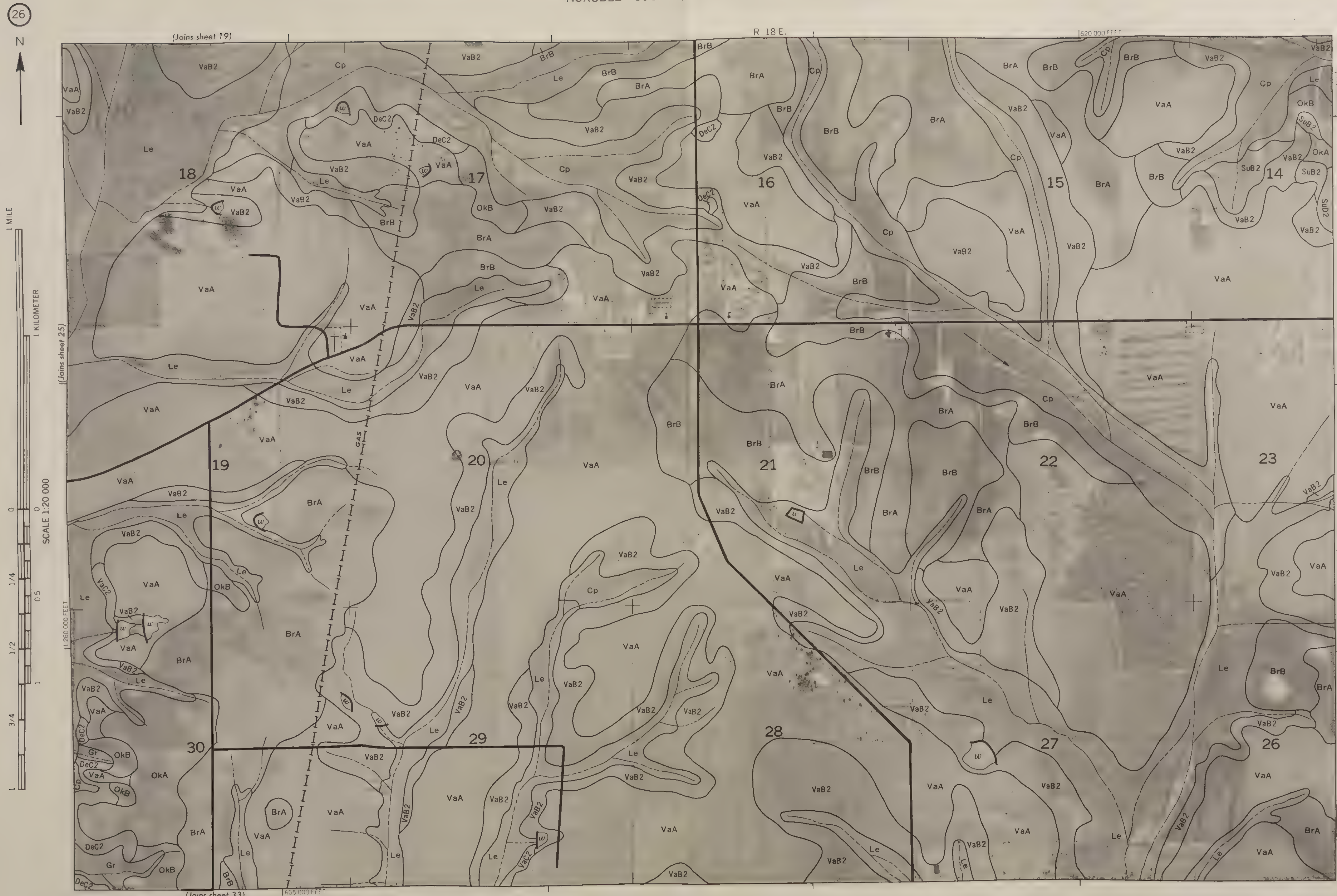
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating


R 15 E
R 16 E
T 15 N.
1 270 000 FEET
1 255 000 FEET
(Joins sheet 16)
(Joins sheet 24)
(Joins sheet 22)
(Joins sheet 30)
NOXUBEE RIVER
NOXUBEE RIVER
Sun Creek
Sun Creek
HASHUQUA CREEK
1 MILE
1 KILOMETER
SCALE 1:20 000
0
1/4
1/2
3/4
1
0
0.5
1
13
14
16
17
18
19
20
21
23
24
25
26
28
29
30
Fk
LR
WF
Wd
SaB
SaC2
Ma
UM
Mo
StA
CaA
PuA
VmA
FaA
LoA
Ub
WcB2
WcD2
WcC2
WcF
KpB2
KpC2
OuE2
RuB2
RuC2
SaA
SW
Je
La
Le
FrB
FrA
PuB
SmD2
Me

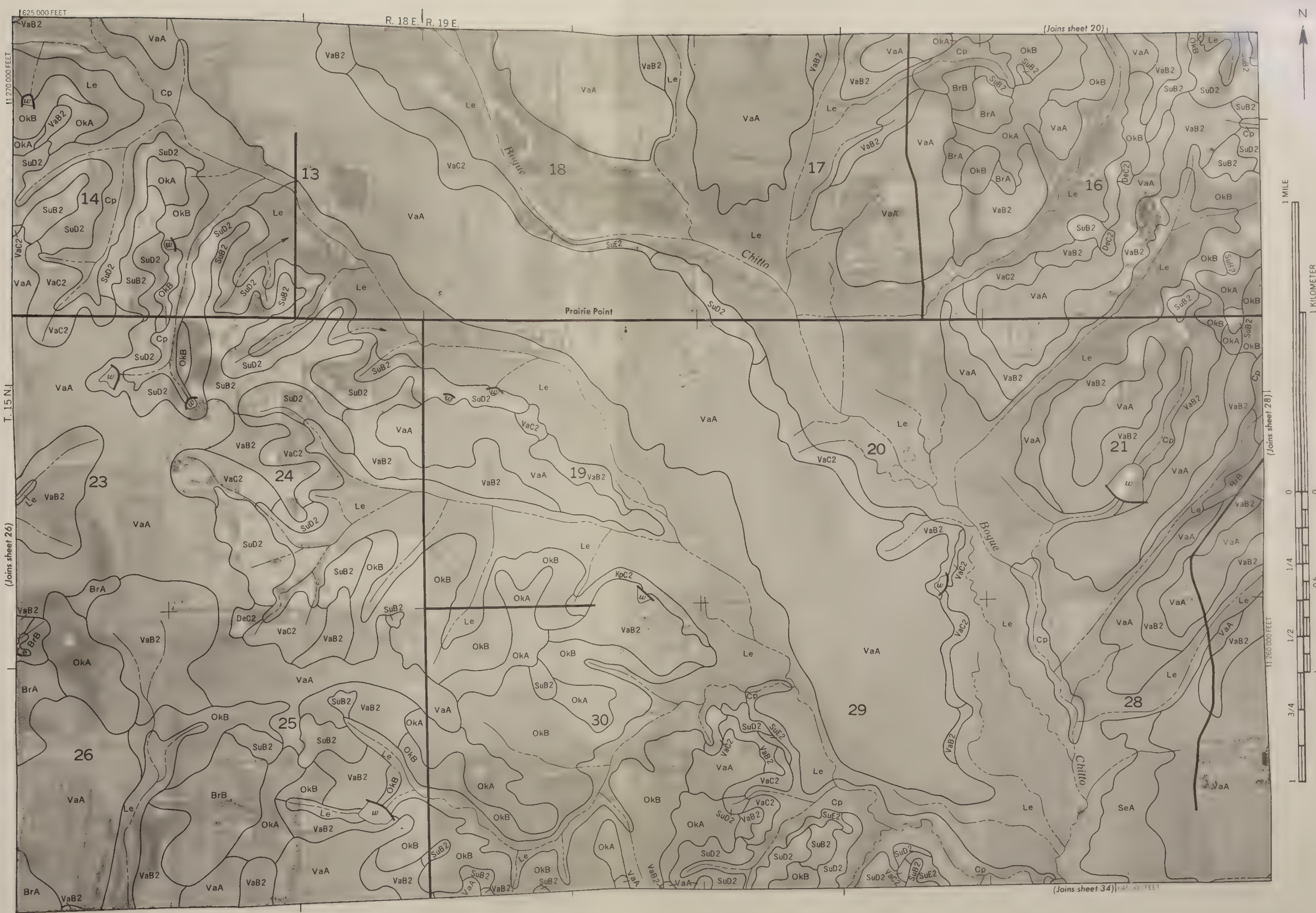

24
N
1 MILE
1 KILOMETER
SCALE 1:20 000
0
1/4
1/2
3/4
1
0
0.5
1
(Joins sheet 17)
(Joins sheet 23)
(Joins sheet 25)
(Joins sheet 31)
R. 16 E. | R. 17 E.
T. 14 N.
575 000 FEET
1 270 000 FEET
1 255 000 FEET
555 000 FEET
13
14
15
17
18
19
20
22
23
24
25
26
27
29
30
Wet Water Creek
Joes Creek
NOXUBEE
water
UM
Ub
Le
Cp
Me
Ma
StA
VmA
PuB
SaB
SaC2
KpA
KpB2
KpC2
DeC2
OtC2
OuE2
FrA
FrB
LuA
SmD2
w

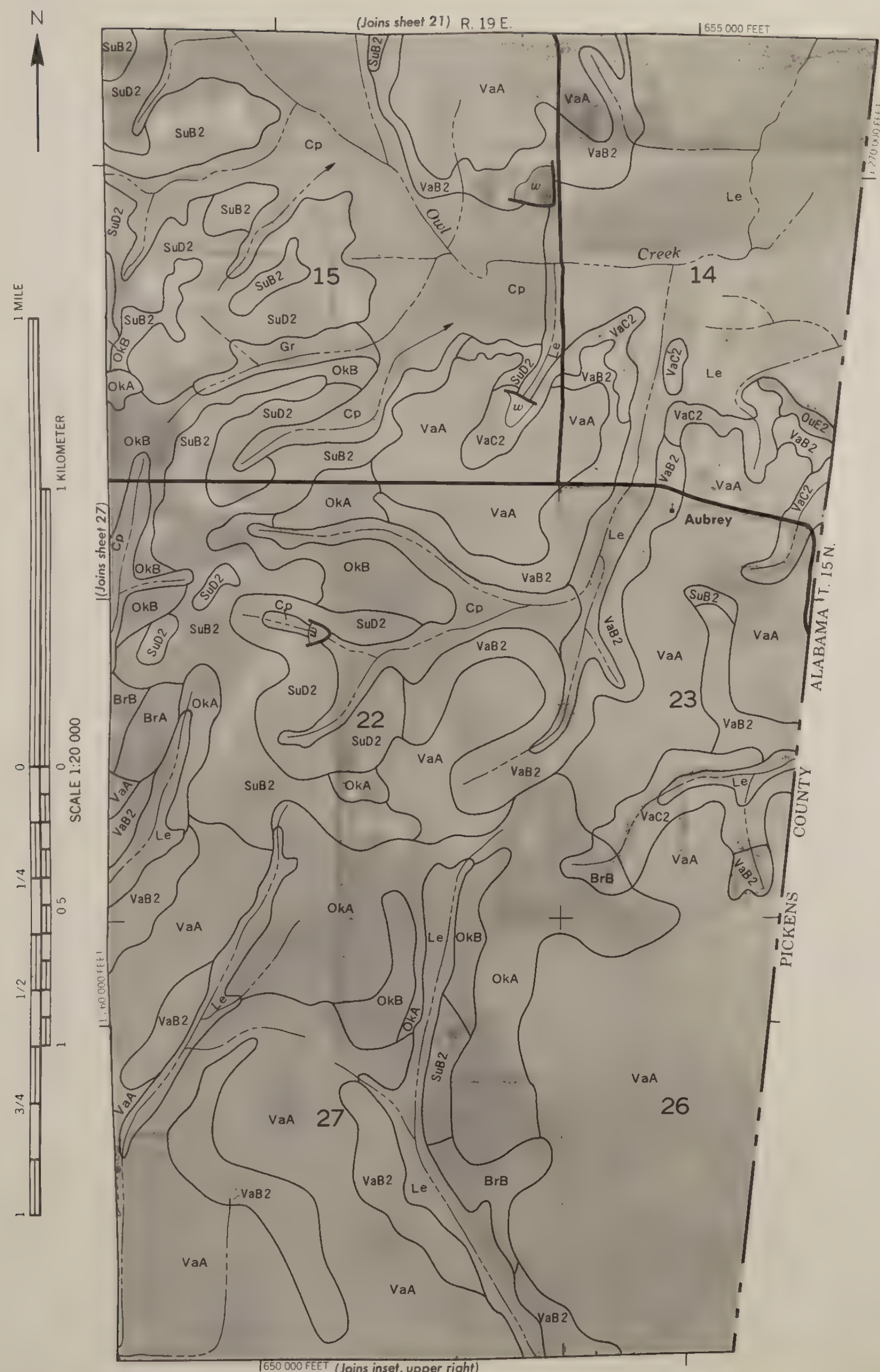


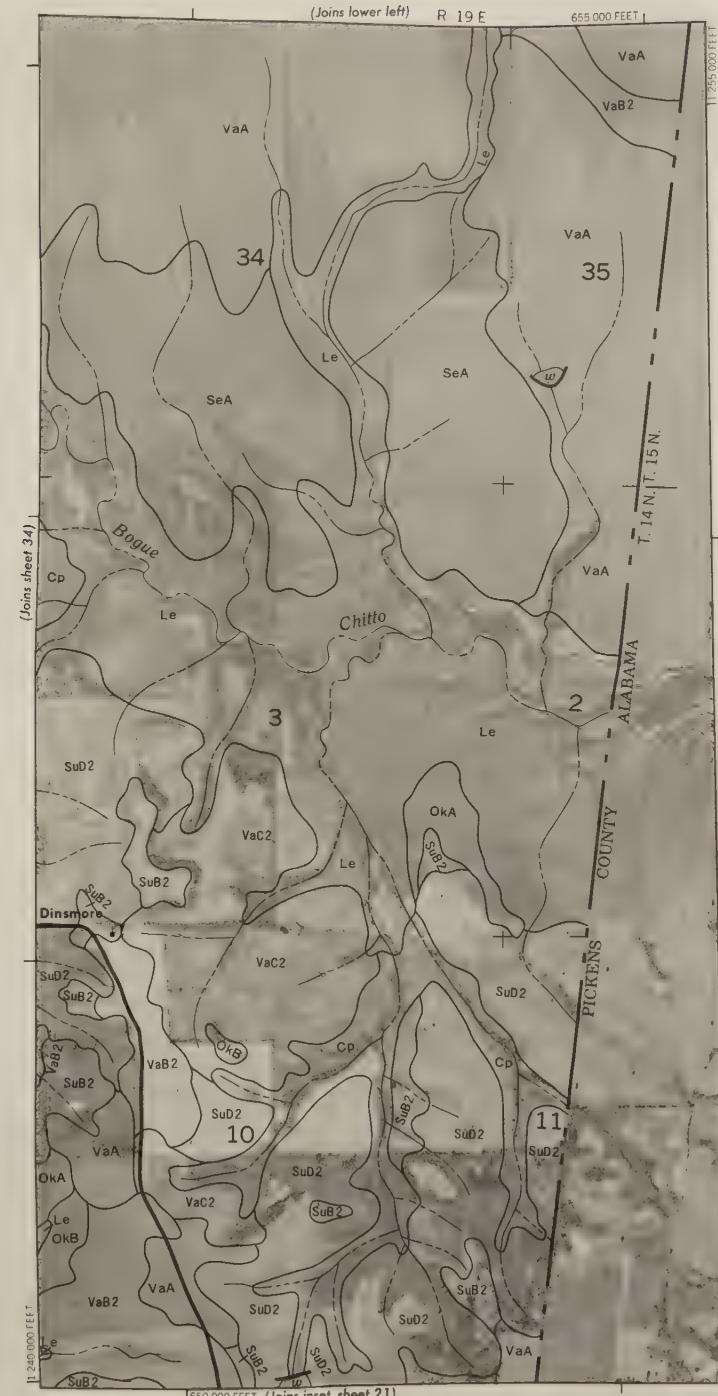
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating

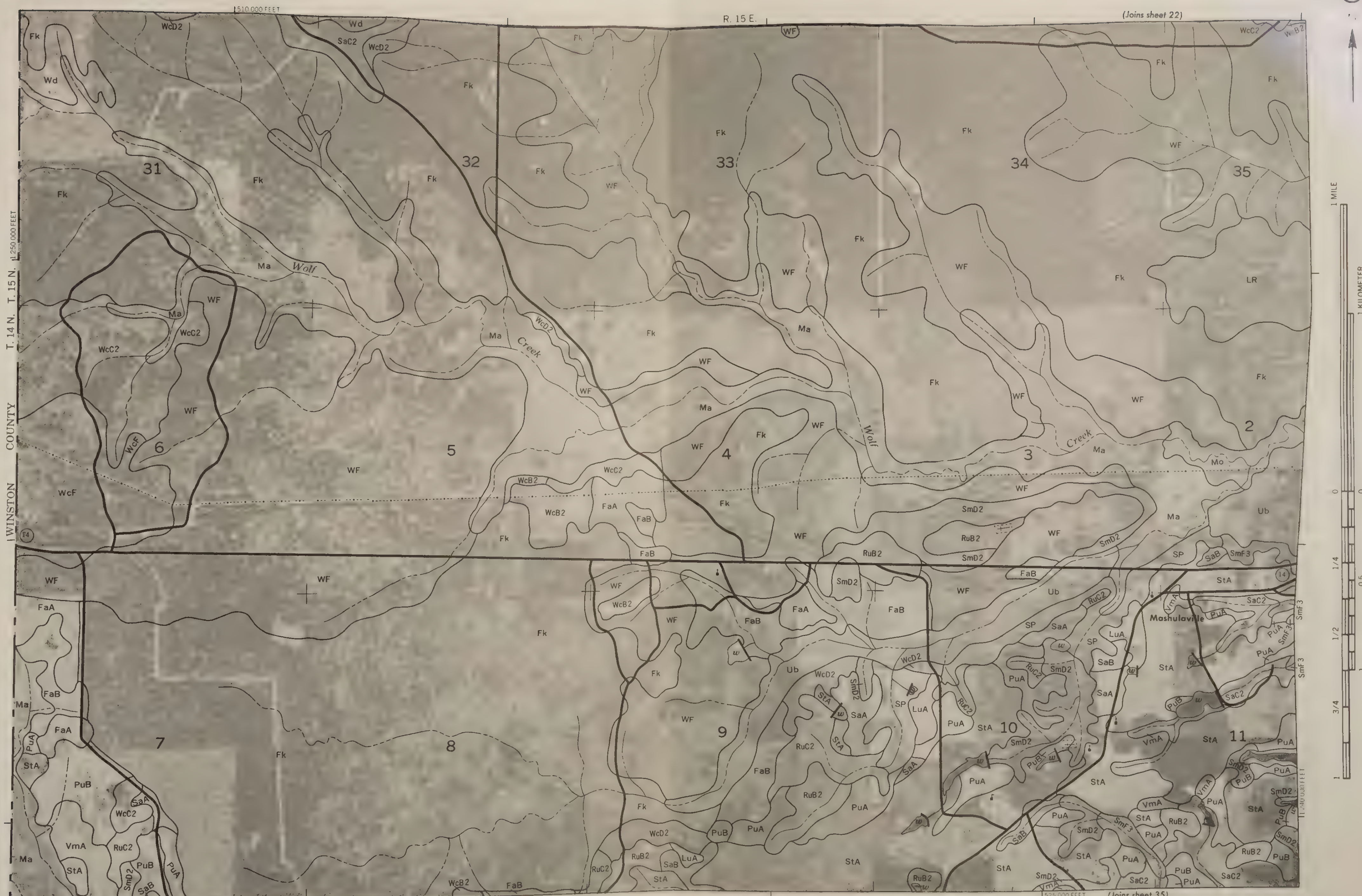

625 000 FEET
1 270 000 FEET
1 260 000 FEET
R. 18 E.
R. 19 E.
T. 15 N.
(Joins sheet 20)
(Joins sheet 26)
(Joins sheet 28)
(Joins sheet 34)
Prairie Point
Boque Chitto
N
1 MILE
1 KILOMETER
SCALE 1:20 000
13
14
16
17
18
19
20
21
23
24
25
26
28
29
30
VaA
VaB2
VaC2
Le
Cp
OkA
OkB
SuB2
SuD2
SuE2
BrA
BrB
DeC2
KpC2
SeA
w



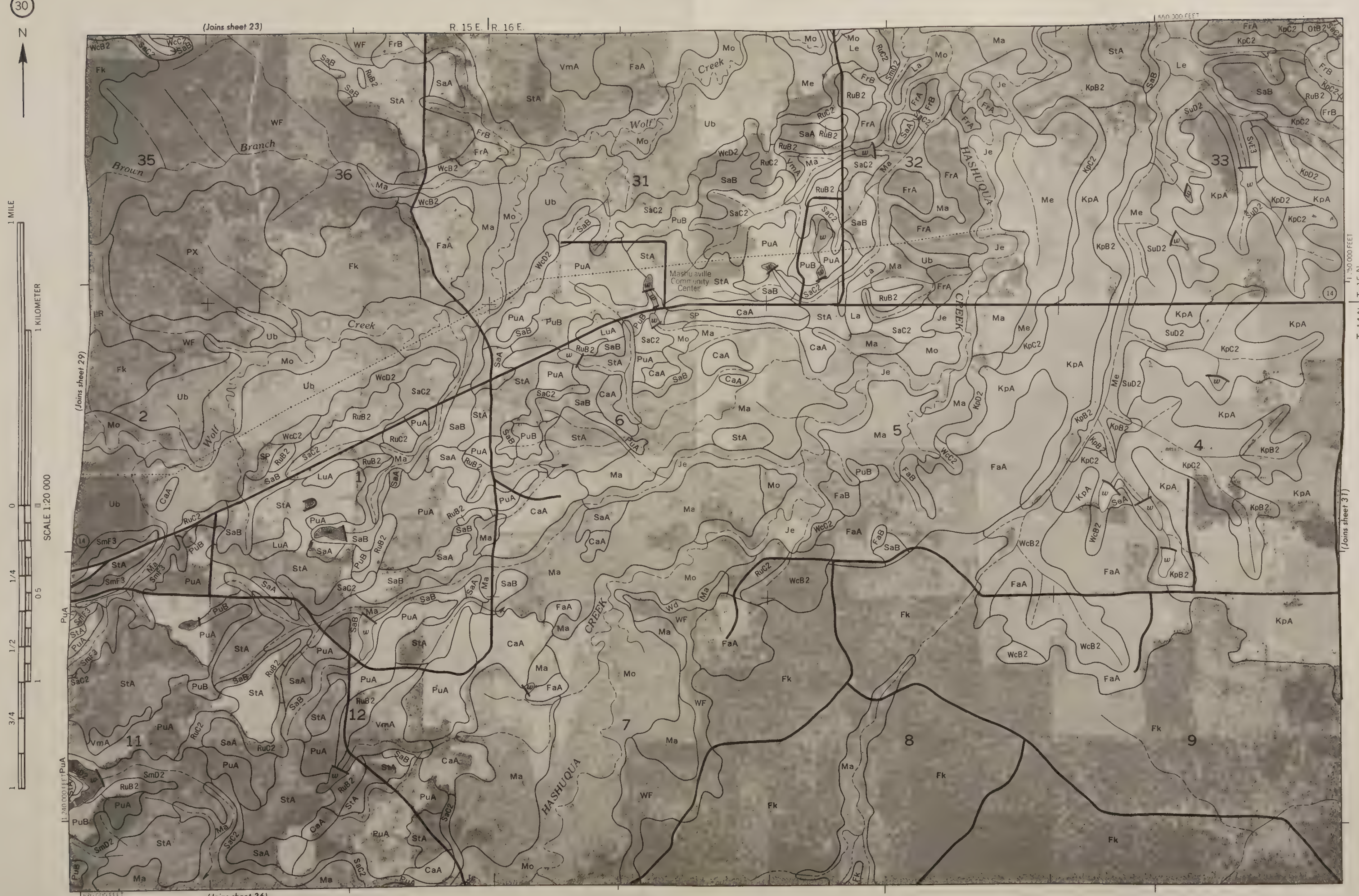


This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating

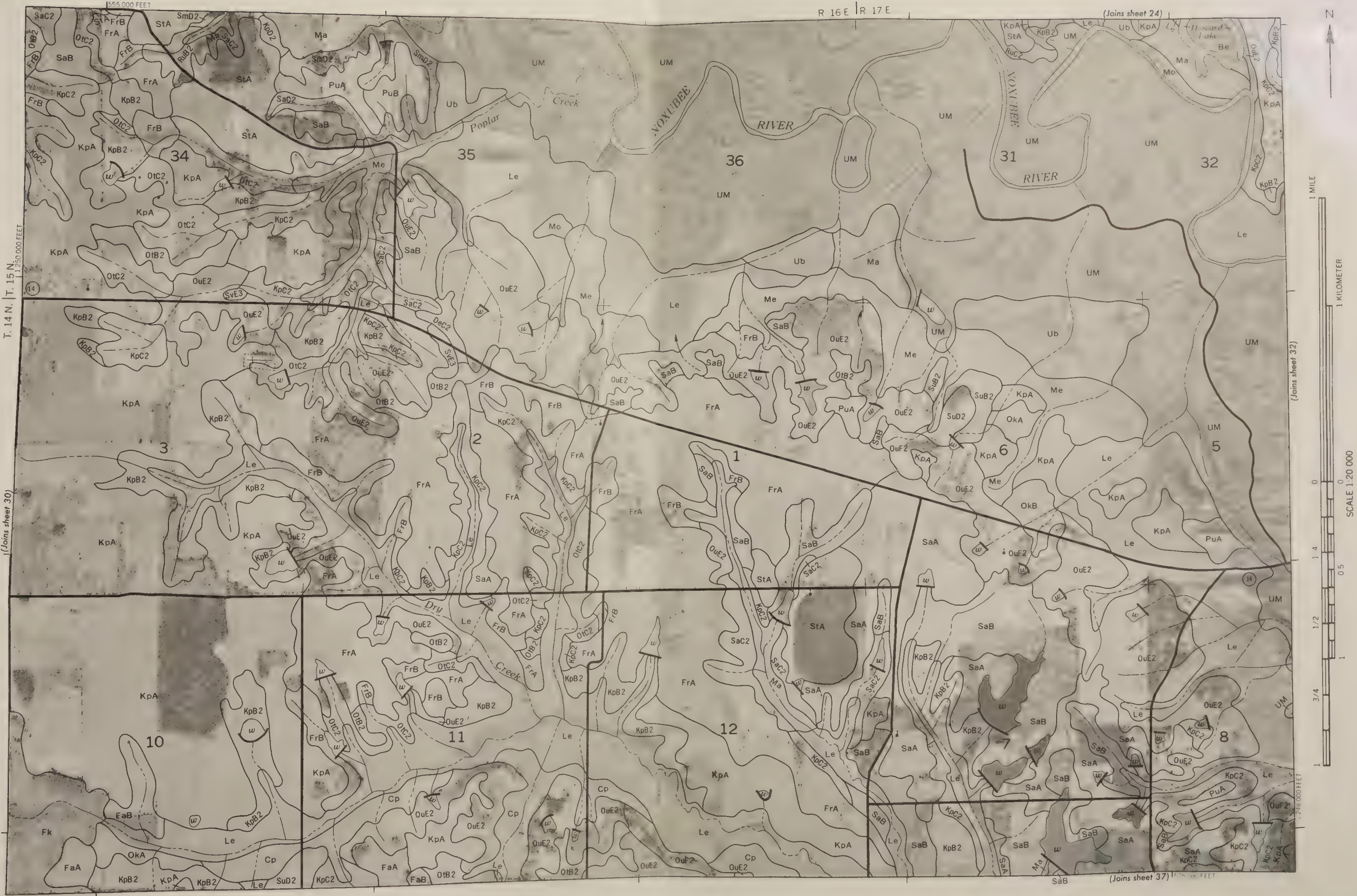
NOXUBEE COUNTY, MISSISSIPPI — SHEET NUMBER 29



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies.

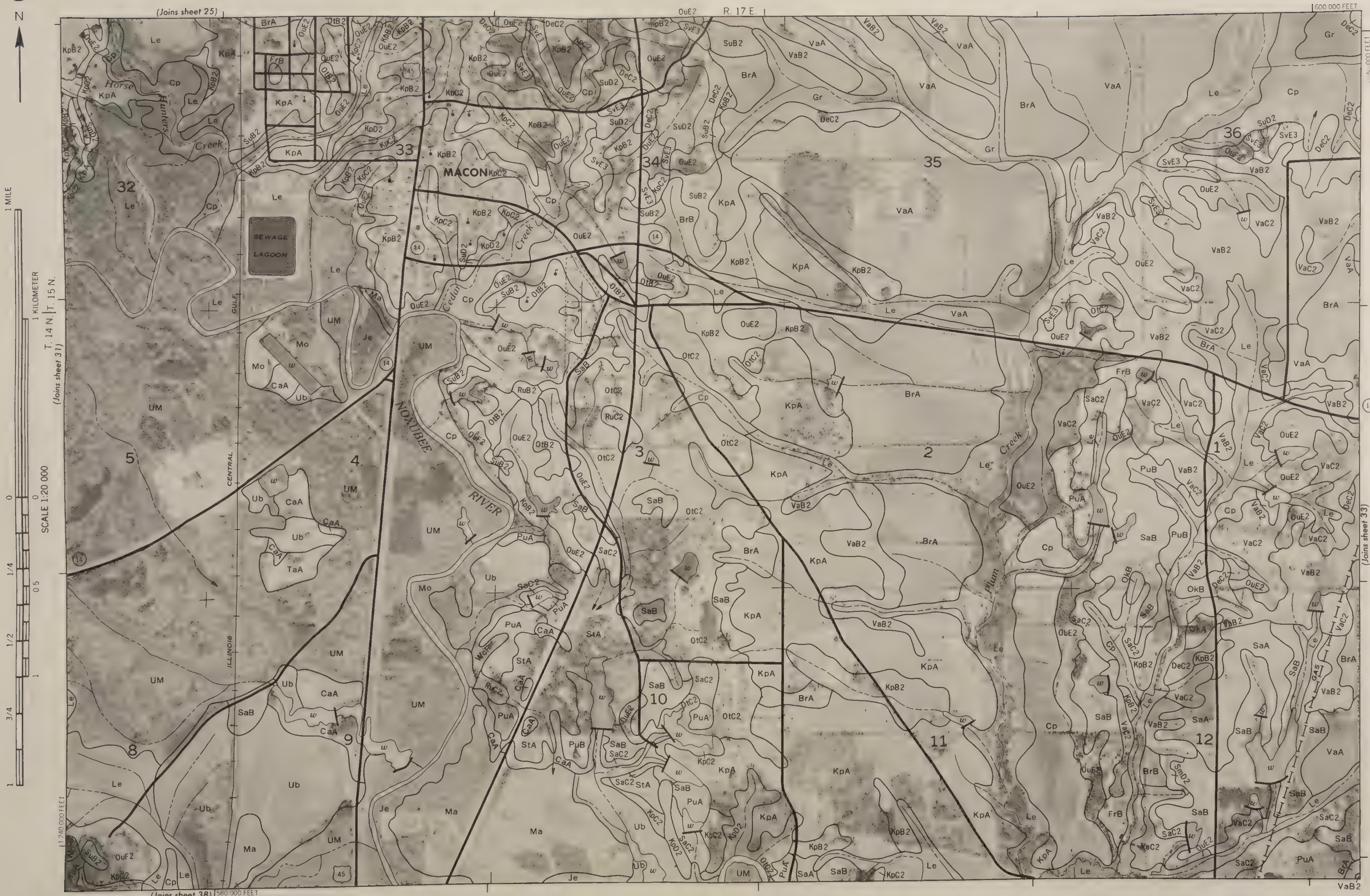


This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating



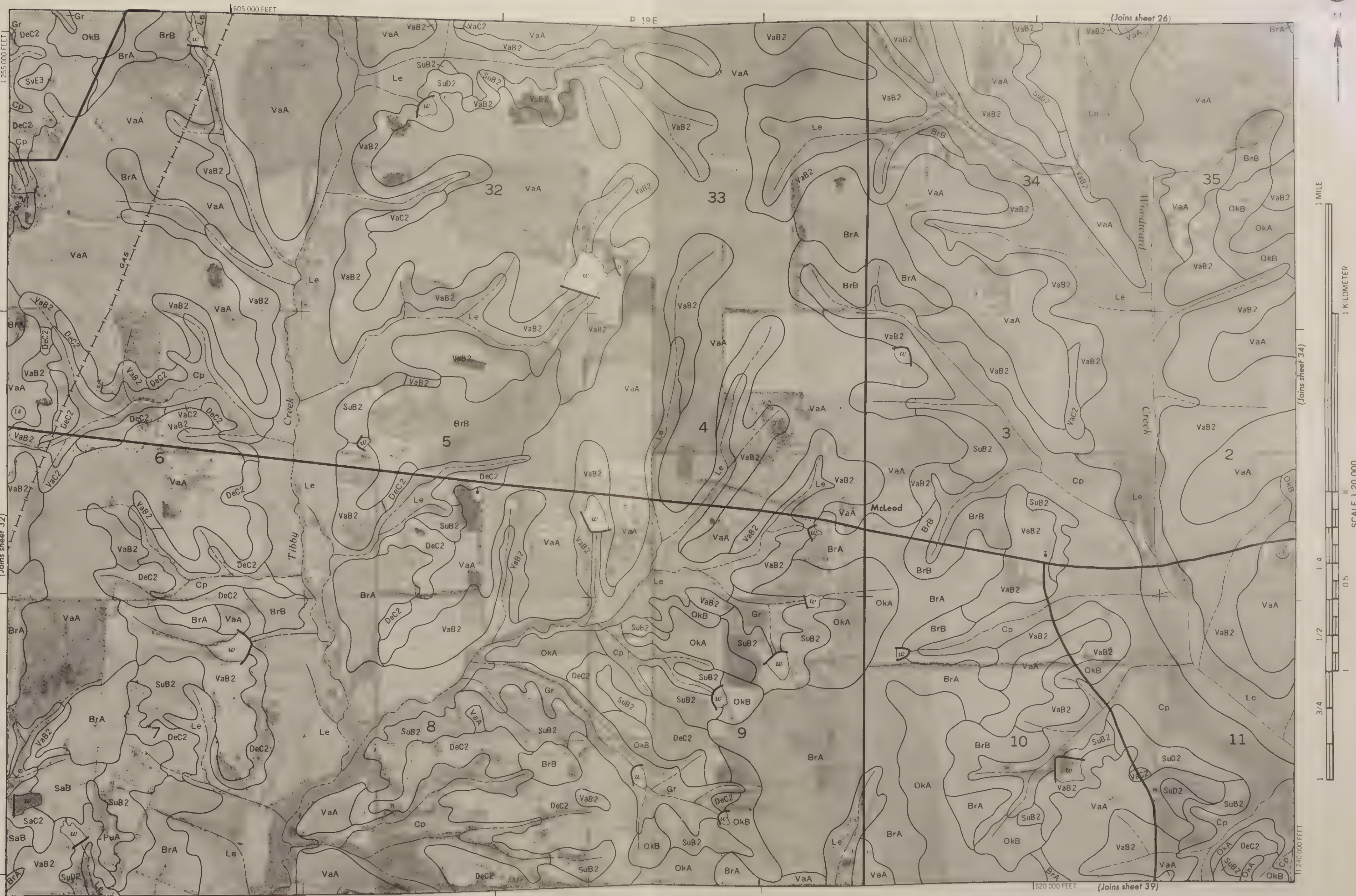
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating

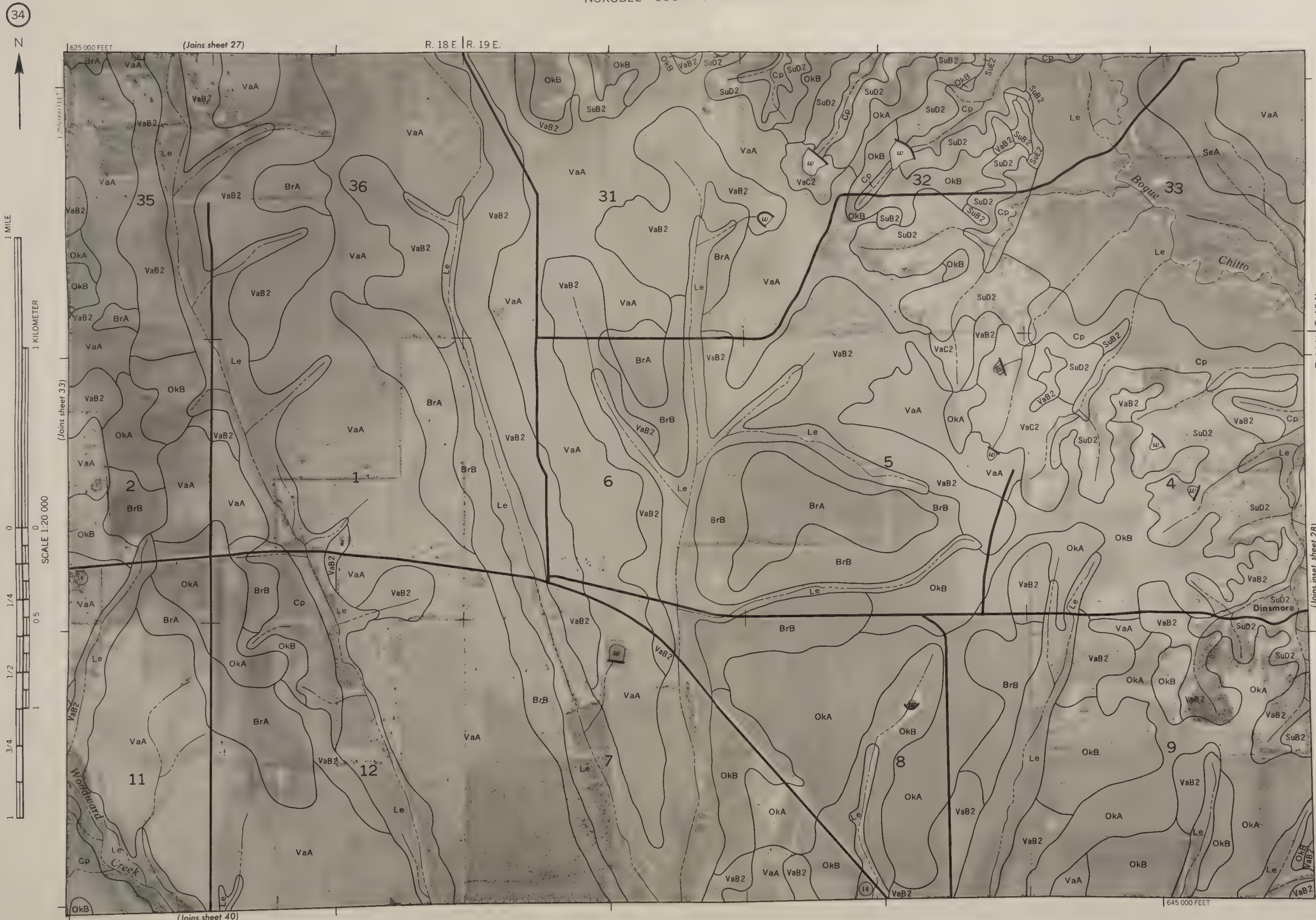
(32)



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from ... and land division corners, if

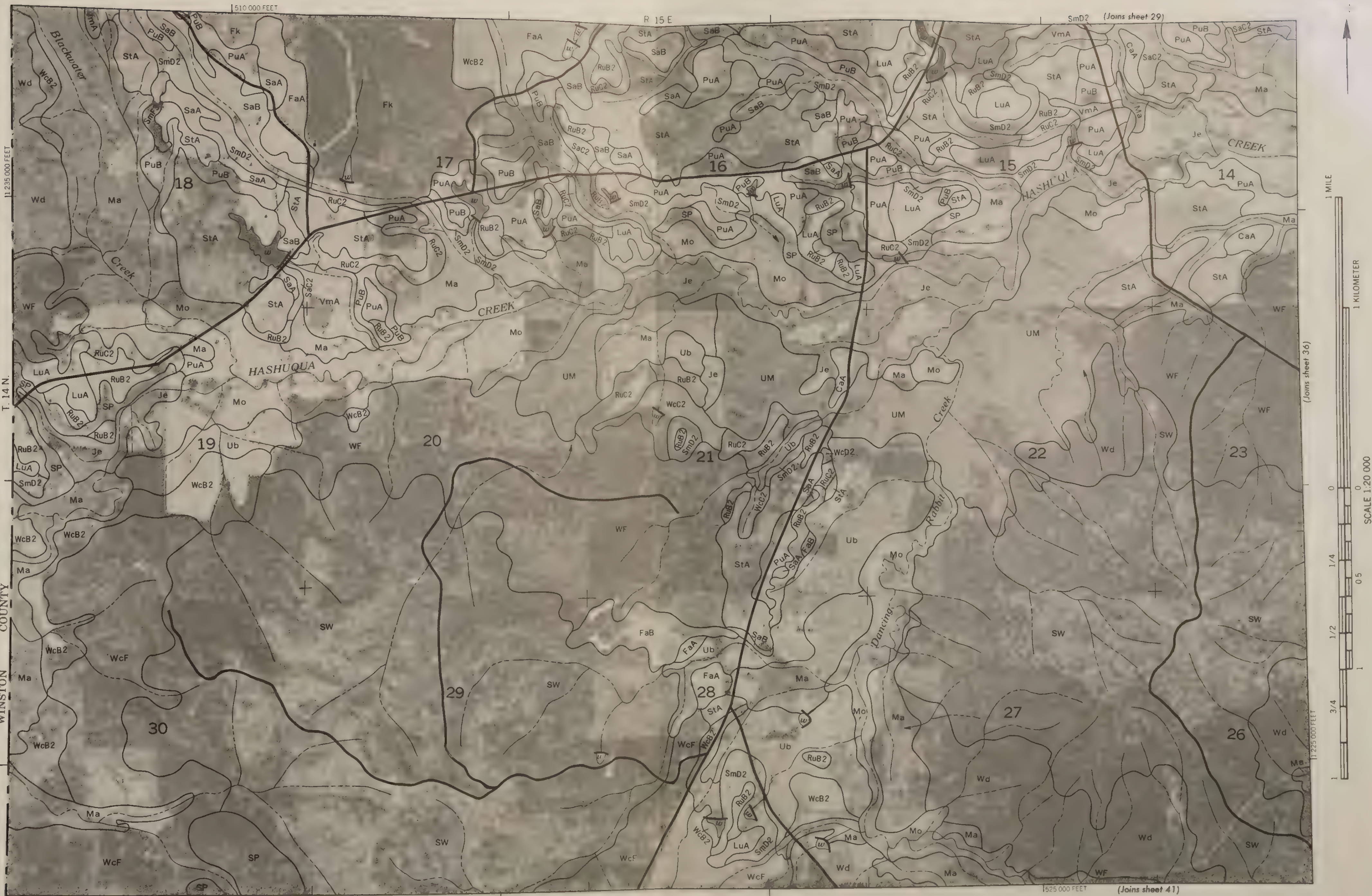
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if





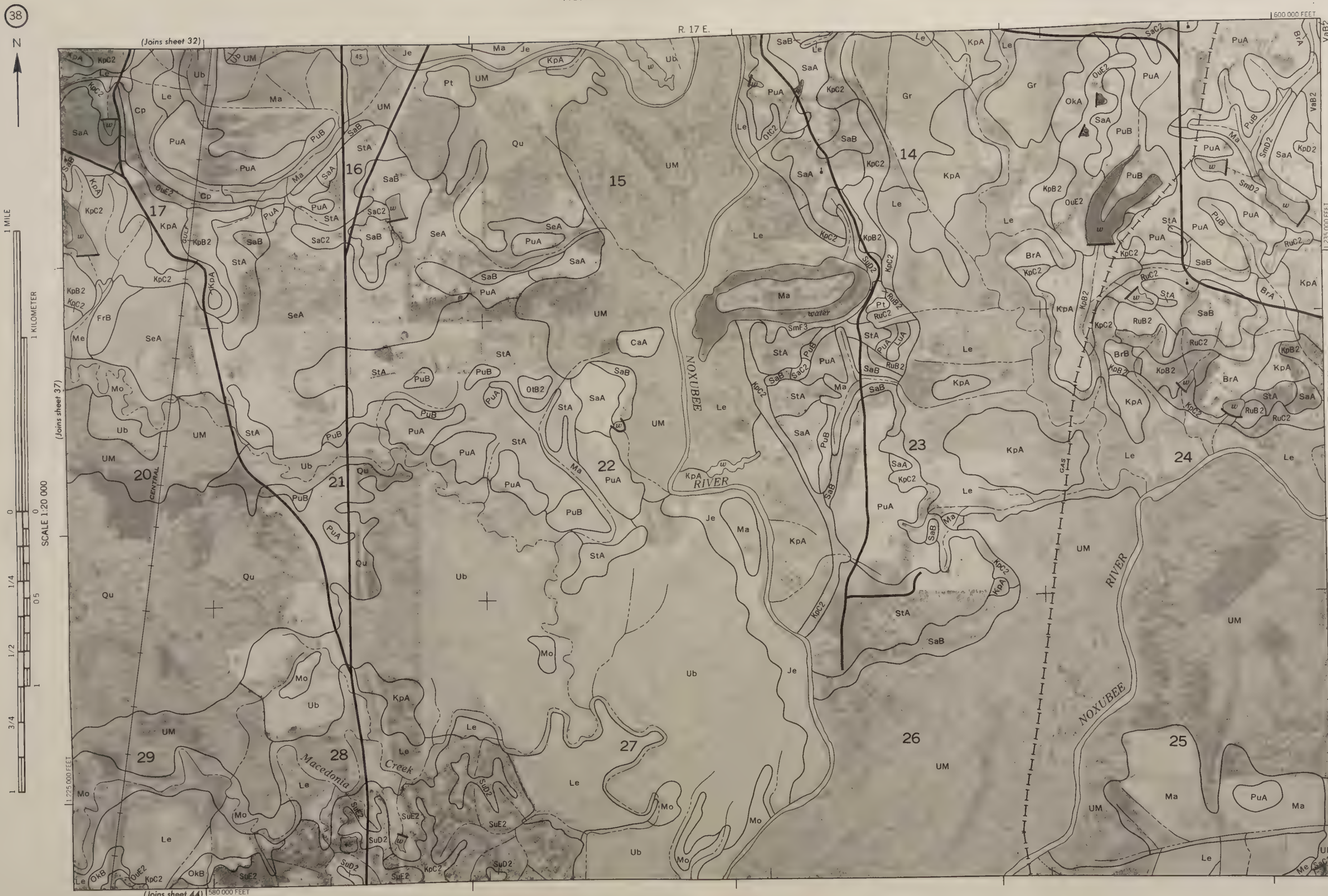
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies.

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if



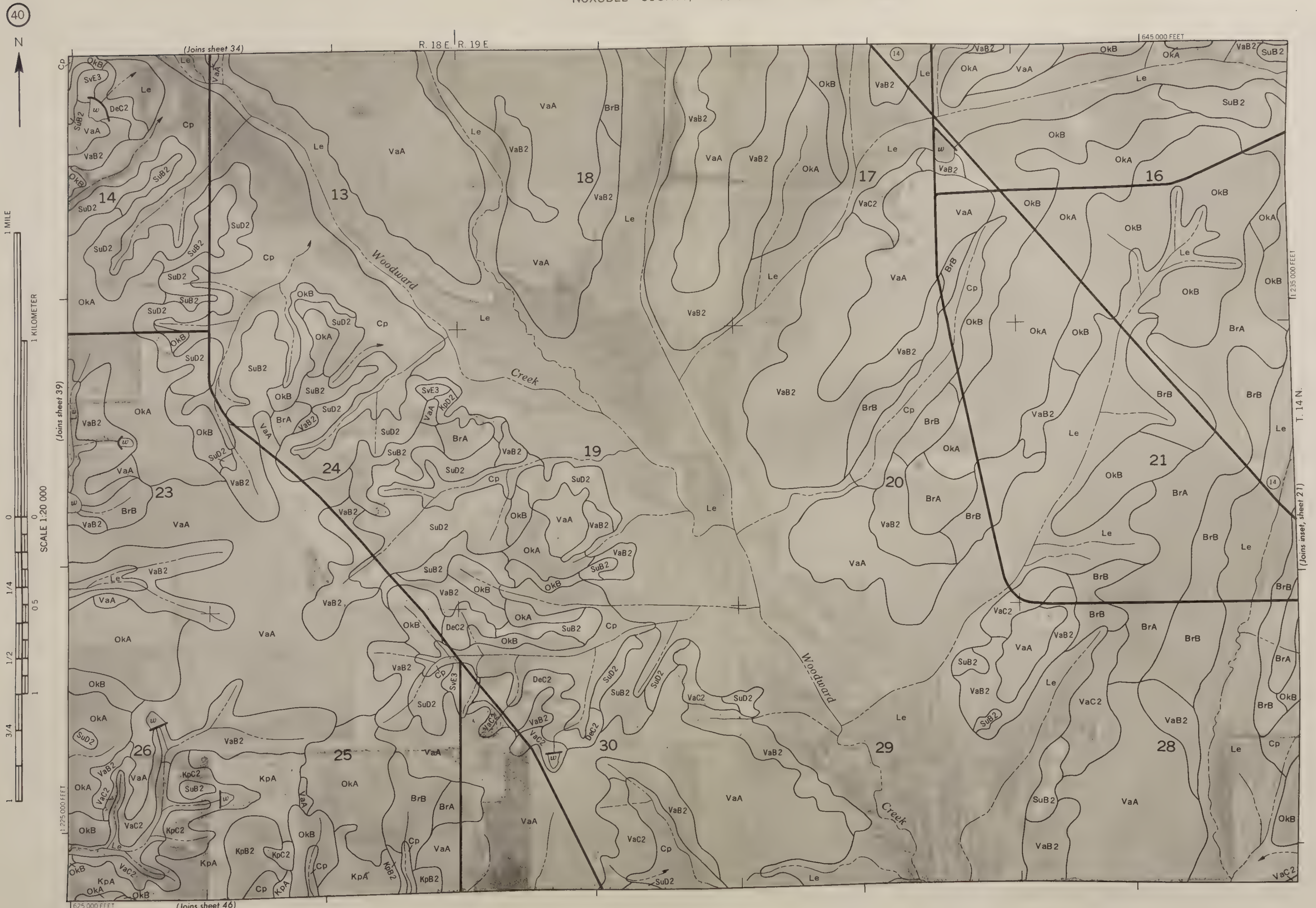
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating



This soil survey map was compiled by the U. S. Department of Agriculture ... and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

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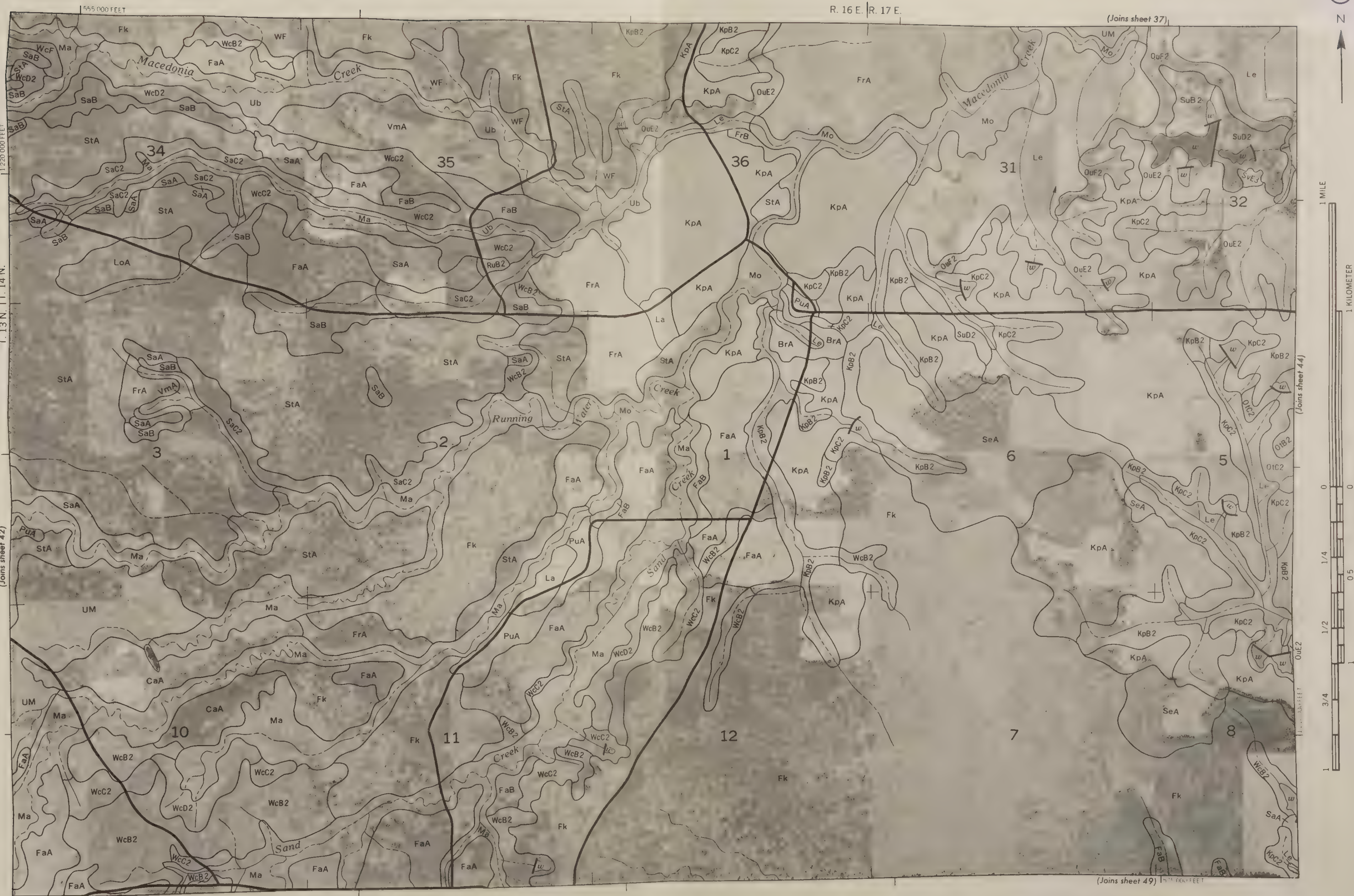
43



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

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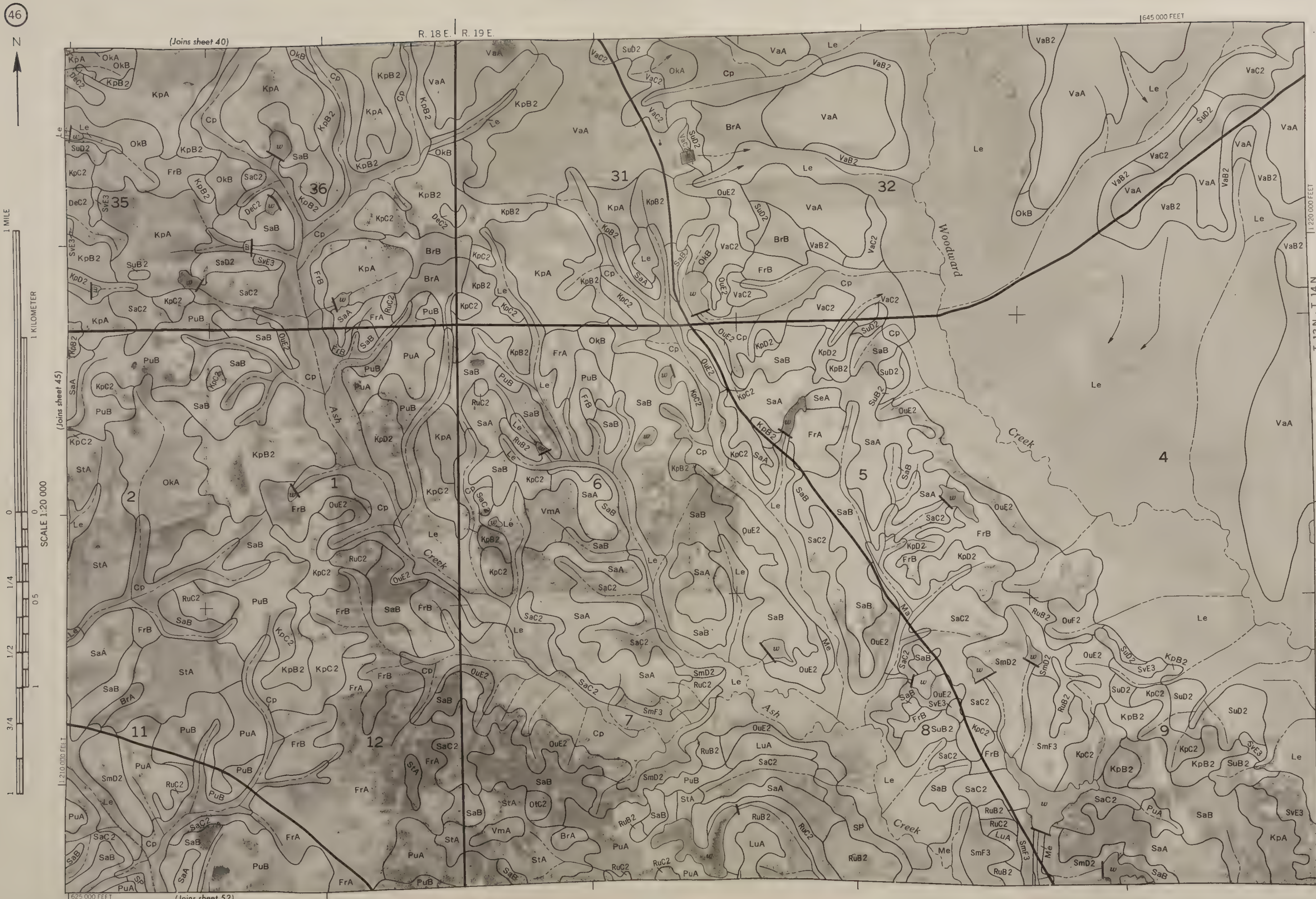
N

SCALE 1:20 000

1 MILE

1 KILOMETER

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

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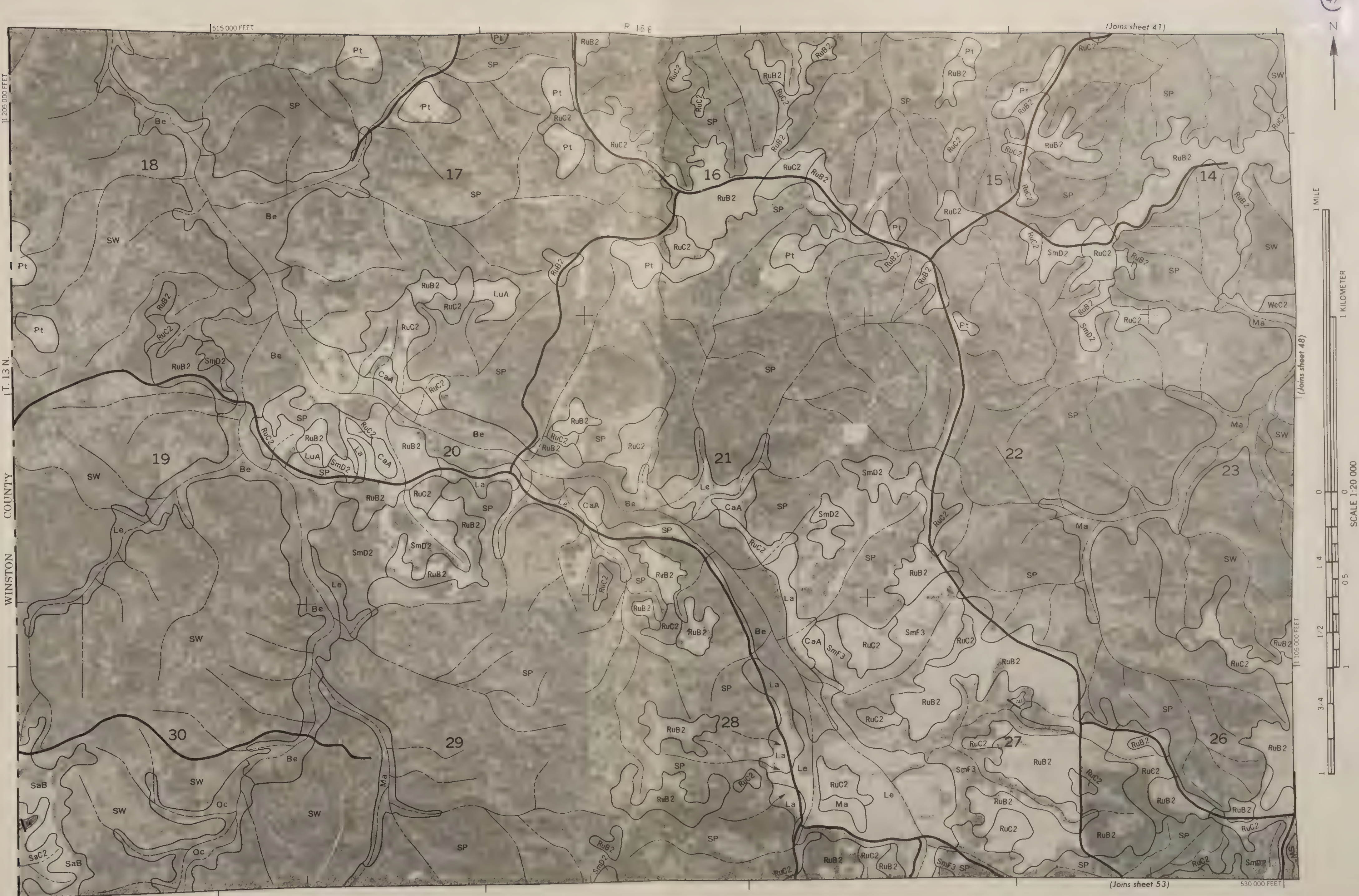
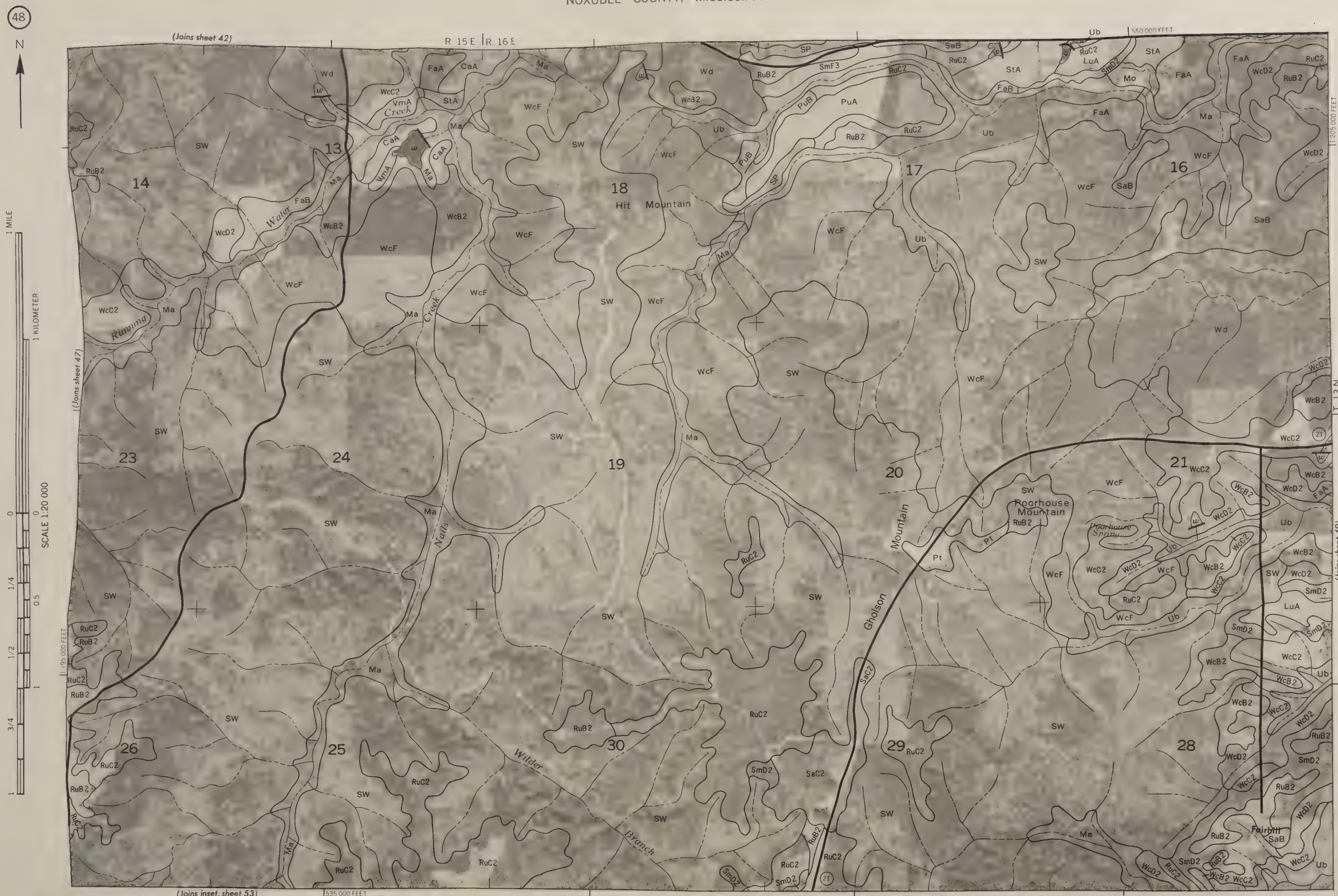
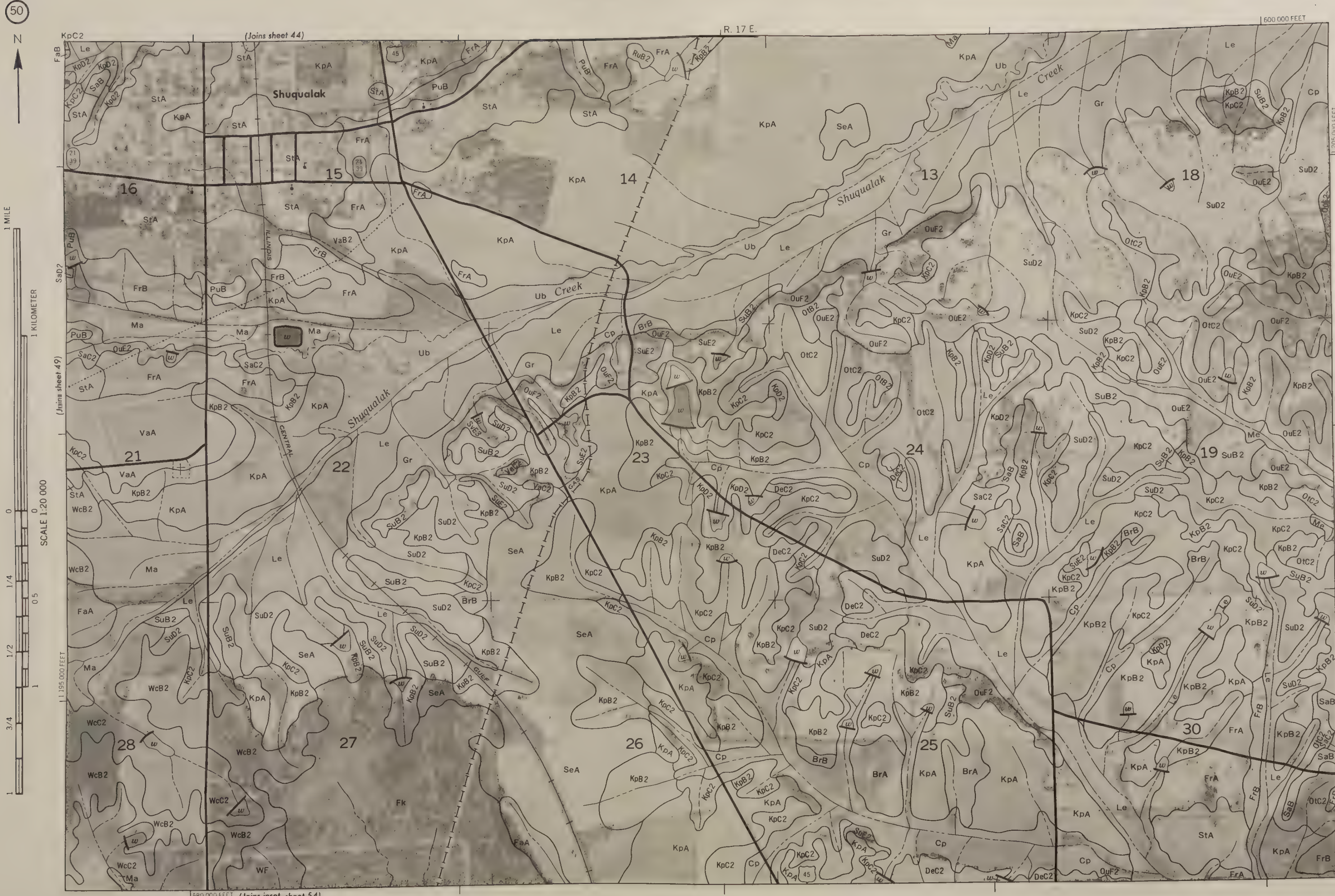


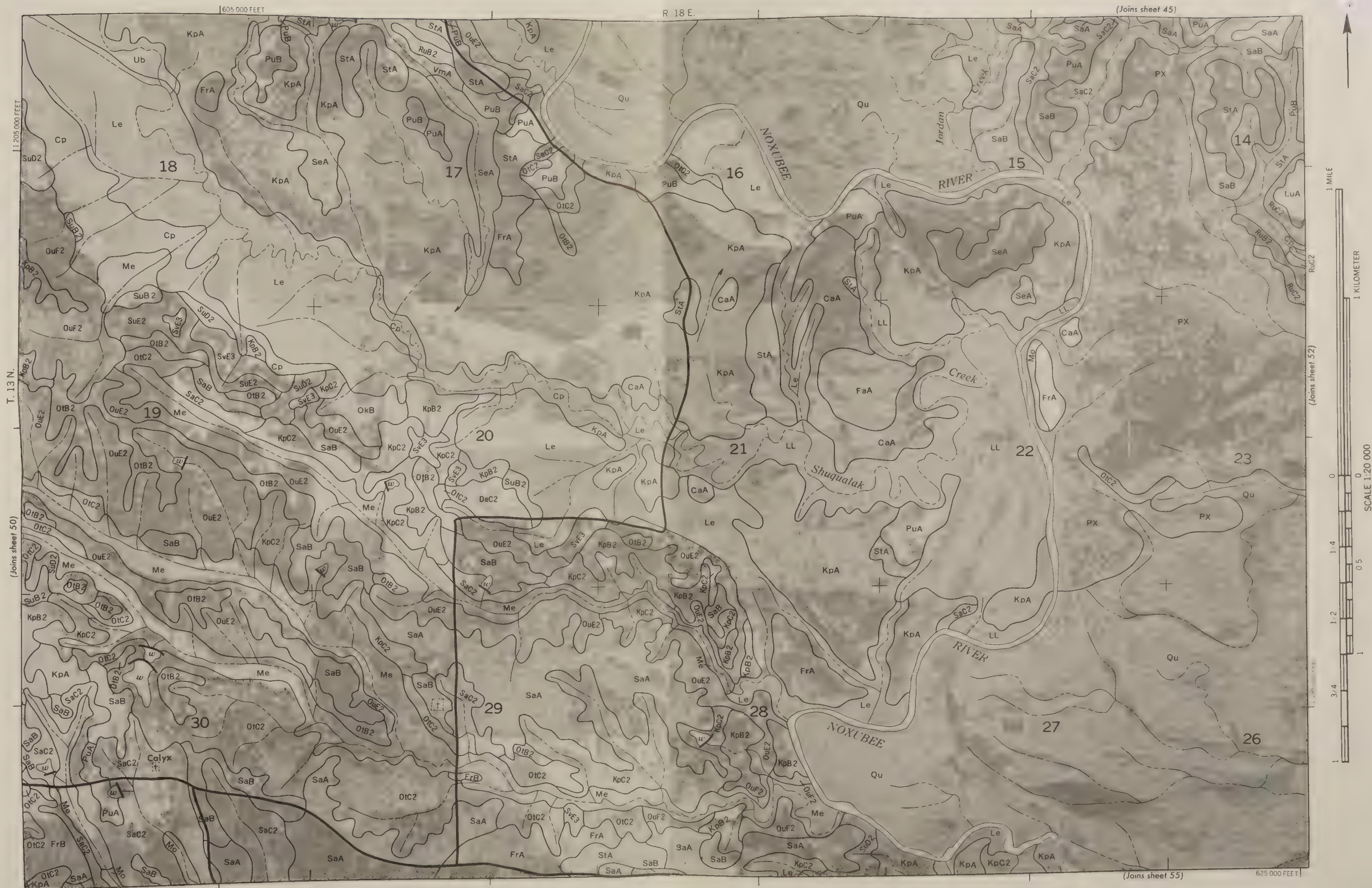


This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

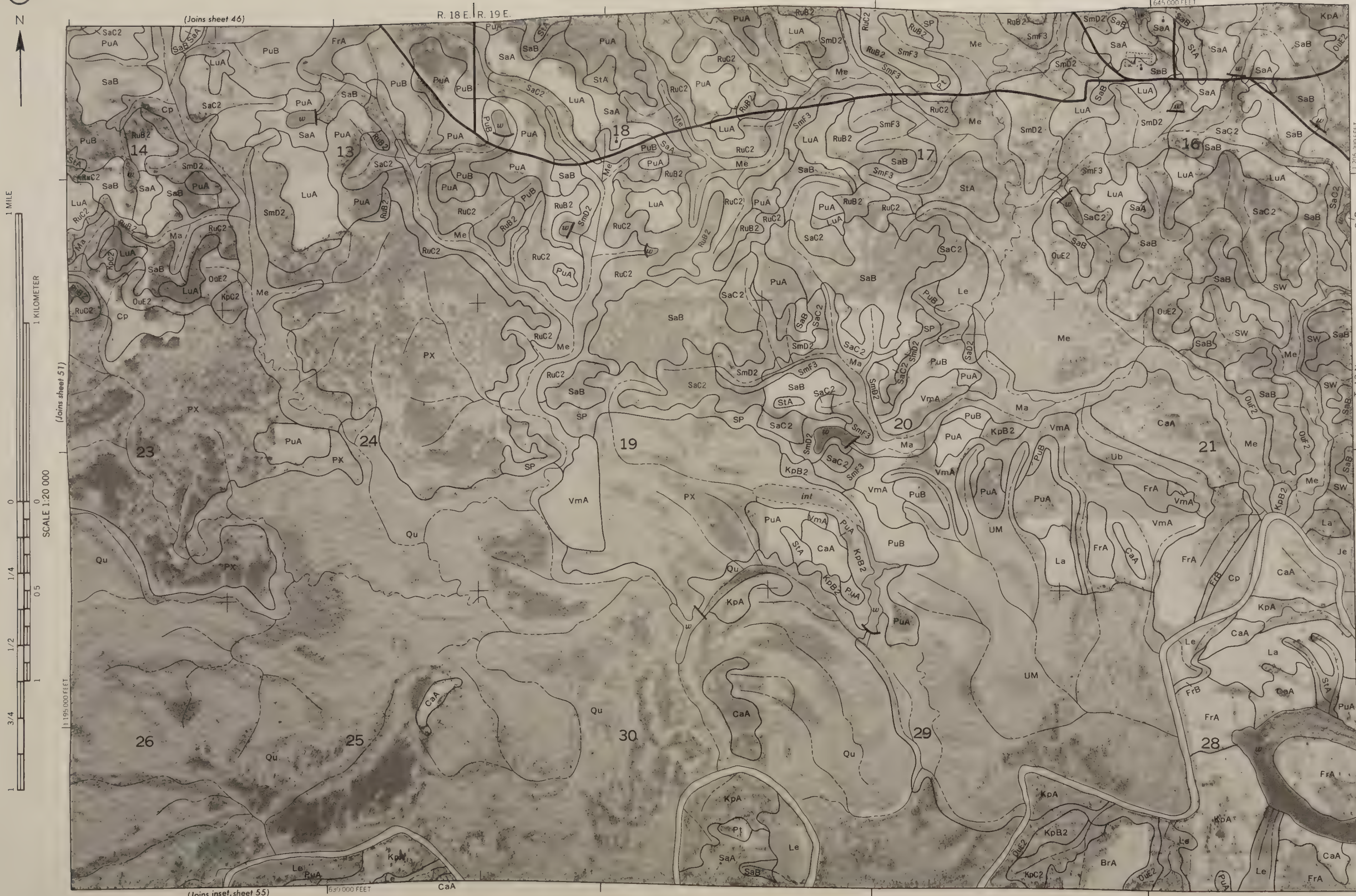
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



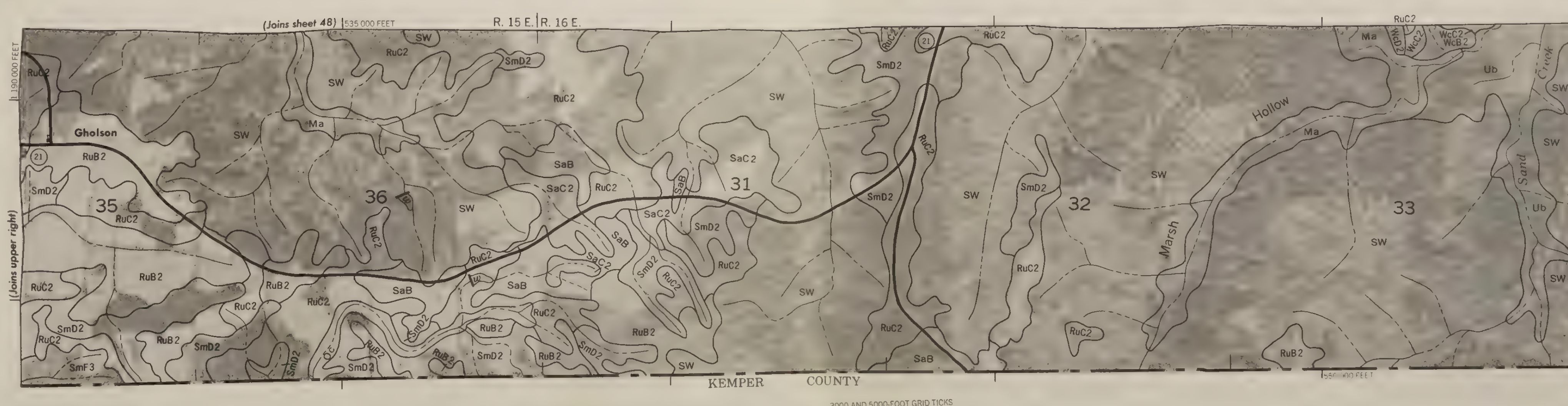
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1960 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



N

1 MILE
1/4
1/2
3/4
0
1 KILOMETER
0.5
SCALE 1:20 000

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

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NOXUBEE COUNTY, MISSISSIPPI — SHEET NUMBER 54

N

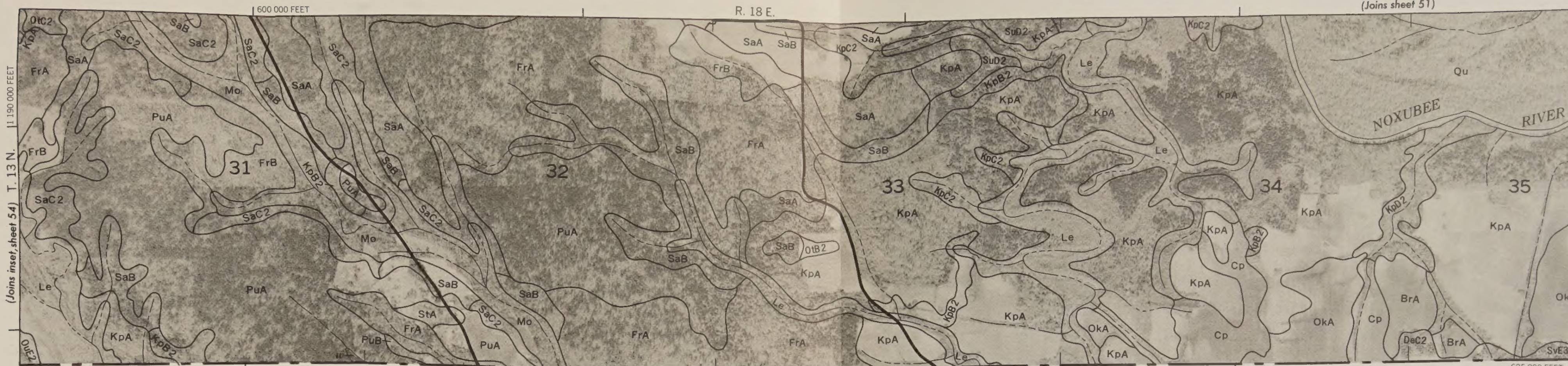
1 MILE

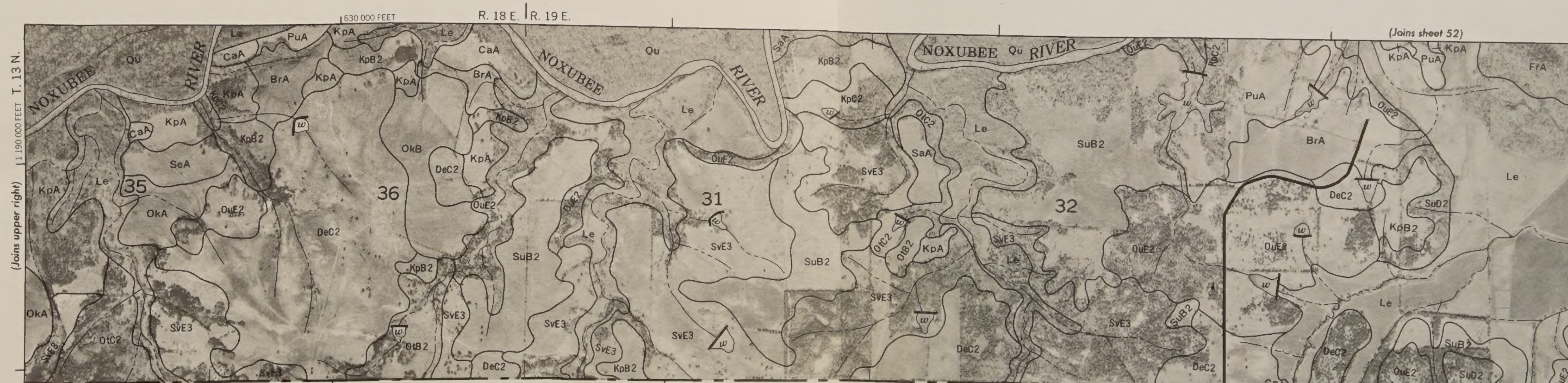
1 KILOMETER

SCALE 1:20 000

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

55





N

1 MILE

1 KILOMETER

SCALE 1:20 000

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are prepared from 1980 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.